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FOUR CASES OF ACUTE NON-SUPPURATIVE ENCEPHALITIS IN CHILDREN.*

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ACUTE non-suppurative encephalitis in children is frequently associated with inflammation of the pia mater, and occurs by simple extension of the inflammation from the meninges to the cerebral cortex, but during recent years an acute hæmorrhagic form has been described which develops independently of any inflammation of the membranes of the brain, and in a large proportion of cases terminates in recovery with or without the persistence of focal symptoms. The study of this disease is full of difficult problems, and, owing to the similarity of the symptoms in its early stages to those of meningitis, it not infrequently escapes recognition. The difficulties which arise are due to the fact that the symptoms vary not only according to the seat of the disease, but also according to the age of the child, and, further, owing to its tendency to recovery, it is often difficult to establish a diagnosis either from existing focal symptoms or retrospectively from autopsy changes. The disease is usually focal in character, though the foci are multiple and disseminated, and any portion of the brain may be affected; but the cortex or encephalitis superior, the basal ganglia and region of the

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medulla or encephalitis inferior, and the cerebellum are the usually selected areas.

An interstitial congenital encephalitis has been described by Virchow and is characterised by the presence of fatty granule cells which are found diffusely scattered or in disseminated nests in the brain of new-born infants. They are seen as small, yellowish foci and on examination are found to contain, in addition to the fatty granules, round-cell infiltration with other changes in the ganglion cells and the neuroglial tissue establishing beyond doubt the fact that they represent an inflammatory process. There is also an acute encephalitis of infants which begins with violent cerebral symptoms not unlike those of meningococcic meningitis and ends as a rule fatally, the autopsy revealing an extensive inflammation of the brain. The disease is apparently primary and is probably the result of some septic process. Microscopical examination reveals necrosis, atrophy of the white matter, disappearance of the ganglion cells, and marked proliferation of neuroglial tissue. It is particularly prone to attack premature and atrophic infants and the seat of inflammation is in most cases in the hemispheres of the cerebrum, occasionally in the basal ganglia, and rarely in the pons. In older children acute inflammation of the brain may run a course similar to that seen in infancy, but more frequently the symptoms are not so violent, the inflammation tends to be circumscribed, and a fair proportion of cases terminate in recovery. The most frequent causes are the infectious diseases, especially measles, mumps, and influenza, but it may also follow injury to the head and in two of my cases this appears to be a causative factor. An additional form of encephalitis which is primary has been described by Strümpell under the name of "acute polioencephalitis." This type he believes to be caused by the same toxic agency as anterior poliomyelitis, and it is interesting to note that during the recent epidemics of poliomyelitis in America and on the Continent many cases have been recorded of acute inflammation of the brain and of the spinal cord in association.

Many cases of cerebral infantile palsy, which commence with acute febrile brain symptoms, are in all probability also due to encephalitis, and if this is so we must conclude that the disease is much more frequent than was formerly believed to be the case. For the pathology we have to depend upon post-mortem findings in infants, and upon a certain number of cases which have recovered and come to autopsy from other causes later, and in which patches of sclerosis or other inflammatory changes have been found in the affected region, confirming a previous diagnosis of encephalitis.

Case 1.—My first case, Kendal S—, aged 4 years, had always been a bright, intelligent, and healthy boy, his only previous illness being whooping-cough, which he had in infancy. There was nothing to note in the family history, his parents and three other children being all alive and healthy. Three months before admission he was taken ill with mumps, and about a week after the attack commenced he suddenly became stubborn and irritable, developed a staring and vacant look, and on getting him out of bed it was noticed that he walked with a staggering gait; there was no headache, vomiting, or convulsion. On admission, on March the 26th, 1907, he was well-nourished and healthy-looking, but he was unable to walk without support. His gait was distinctly ataxic, and there was marked inco-ordination of the arms and legs; the muscles were soft and flaccid, but not wasted, the electrical reactions were normal, and the knee-jerks were absent. The pupils were dilated, but reacted to light and accommodation; there was no ocular paralysis, and there was no optic neuritis. The cerebro-spinal fluid obtained by lumbar puncture was normal. The boy remained in hospital until June the 7th, by which time he had made considerable progress towards recovery, but he still walked with a slightly staggering and uncertain gait. After his discharge he continued slowly to improve, and at the present time, I am informed by his doctor, he is perfectly well both mentally and physically.

The similarity of the symptoms in this case to those in a series recorded by F. E. Batten,* under the title of "Acute Ataxia in Children," led me to consider it to be of the same type, the most probable cause being a cerebellar encephalitis. This disease, Batten says, "occurs in healthy and intellectual children who are taken ill with some infectious disease; a period of unconsciousness may occur during the illness, but general convulsions are seldom present. The child is apparently making a normal convalescence, when, on getting up, it is discovered that he has inco-ordination of the hands and feet, and that he is ataxic. Recovery gradually takes place in favourable cases; the child may be quite well in two or three months, but more usually it is one to two years before recovery is complete." In my case the absence of headache, vomiting, and optic neuritis—symptoms always present in cerebellar tumour—excluded that disease, and the normal electrical reactions negatived the possibility of a peripheral neuritis, whereas the inco-ordination, the ataxia, the hypotonicity of the muscles, and the absence of knee-jerks make it difficult to locate the lesion elsewhere than in the

* 'Brain,' vol. xxviii, p. 488.

cerebellum. Moreover, the close association of the cerebral symptoms with mumps is strong presumptive evidence of their being caused by one and the same toxic agency.

Case 2.—Monica B—, aged 4 years, was admitted into the Infirmary for Children on October the 19th, 1909. Her father, mother, and nine other children were healthy. There were six children dead; one from convulsions, aged $1\frac{1}{2}$ years; one from scarlet fever, aged 5 years; one from croup, aged 2 years; one from "consumption of the bowels," aged 5 months, and two were still-born. She had measles when a year old, but otherwise had enjoyed good health until four weeks before admission, when she injured her head by falling out of bed. A week later she was taken ill with a feverish attack and cough. There was no headache or vomiting, but she became irritable and restless, and after a few days in bed it was discovered that she could not walk or stand, and that she had tremors of the arms and legs. On admission she was extremely irritable, especially under examination, and lay in the crouched-up attitude; there was no facial or ocular paralysis, but when the eyes were fixed, coarse nystagmic movements were seen. There were marked tremors of the arms and hands, which were increased by muscular effort, and similar tremors, but more intense, affected both lower extremities. The gait was staggering, with a tendency to fall forwards, very similar to that seen in paralysis agitans, and she was unable to stand or walk without assistance. The knee-jerks and the superficial reflexes were present, but weak; the plantar response was flexor. Kernig's sign was absent, and there was general hypotonicity of the muscles; there was no optic neuritis. This child also gradually improved, and on December the 30th, when she was discharged, there were no tremors in any of the limbs and there was no nystagmus; she was able to walk quite steadily and appeared to be bright, good-tempered, and intelligent.

In this case it is somewhat difficult to determine whether the injury to the head was the causative agent, or whether the feverish attack which set in a week later was of an influenzal character. The family history also suggests the possibility of a specific origin, but beyond the history there were no signs of inherited syphilis in the child, either in the eye-grounds or elsewhere. Gordon Holmes* has recorded nine cases with tremors of a similar type, which were associated with destructive lesions in the cerebello-rubro-spinal system, and more recently R. Miller† has published six cases, all

* 'Brain,' 1904, p. 327.

† *Ibid.*, 1909, p. 54.

occurring in children, in all of which similar tremors were present, which he believed to be due to polio-encephalitis affecting the same tract in the mesencephalon. It is, therefore, not unreasonable to suppose that the tremors in my case were caused by some irritation of an inflammatory nature affecting this tract, and further, the ataxia, the nystagmus, and the muscular flaccidity would suggest that a portion of the lesion was either in the dentate nucleus or in the superior cerebellar peduncle, through which the fibres of the cerebello-rubral tract are conducted to the red nucleus of the opposite side.

Case 3.—Fred W—, aged 6 years, was admitted into the Children's Infirmary on June the 18th, 1909, and had been exceptionally bright and healthy until six weeks before admission, when he was taken ill with measles. For about three days the attack ran an ordinary course; vomiting then set in, which lasted two days, and he completely lost the power in his arms and legs. He could not speak or open his eyes, and for a week lay in an unconscious condition. At the end of that time he regained consciousness, opened his eyes, and seemed to recognise his parents, but he was still unable to speak or move any of his limbs. On admission he was fairly nourished, but lay absolutely helpless in bed, and was unable to sit up without support, or even lift his head from the pillow. He was unable to speak, but seemed to understand what was said to him, and he frequently laughed in an aimless manner. The pulse was slow and irregular, the pupils were equal and reacted to light and accommodation, there was no optic neuritis or nystagmus, but there was well-marked left internal strabismus. Inco-ordination of the upper and lower limbs was very pronounced, the muscles were flaccid, but not wasted, and the knee-jerks were absent. There was apparently anæsthesia to pin-pricks of both lower limbs up to Poupart's ligament, of both arms, and of the neck. The gait was markedly ataxic, with a tendency to fall backwards, and there was incontinence of urine and fæces. He remained in hospital until December the 28th, and on his discharge he was able to walk with support and to speak a few words, such as "Good morning." The internal strabismus remained and his mental condition was considerably impaired. Since his return home he has improved considerably in this respect; he is now obedient and even-tempered, he can remember well events that happened before his illness, and he has complete control over the urinary and rectal sphincters. He can stand by himself, but is still unable to walk without support. The knee-jerks are absent, and the muscles are soft and flaccid, but

not more wasted than would be expected from disease ; they react normally to electricity, and there is still slight inco-ordination of the hands and feet.

The flaccidity of the muscles and the pronounced ataxia seem to suggest in this case also an involvement of the cerebellum ; the paralysis of the left sixth nerve point to a lesion in the pons, whereas the mental disturbance is indicative of an affection of the pre-frontal region of the cerebrum. I would therefore suggest that this is a case of widely diffused encephalitis involving the cerebellum, the mesencephalon, and the frontal area.

Case 4.—Gertie B—, aged 8 years, was admitted on August the 16th, 1907, when we obtained the following history from her parents: When five years old she fell off a chair, striking the back of her head ; she was unconscious for two days, during which time she vomited repeatedly. She was then taken to the Liscard Hospital, where she remained for fourteen weeks, and was said to be suffering from concussion of the brain. On her return home tremulous movements of the right arm and leg were noticed, especially marked during muscular exertion ; she had no headache or vomiting, but during the past three years she has had several fainting attacks, in which she lost consciousness, but there were no convulsive movements. On admission she presented marked intention tremor, especially affecting the right arm and leg, but also present, but to a less degree, on the left side and in the head. Her grip was fairly strong and equal, the knee-jerks were sometimes present, at other times absent, there was no ankle clonus, the electrical reactions were normal, there was no rigidity of the limbs, and the cerebro-spinal fluid was normal. There was no paralysis of the eye muscles, no optic neuritis, but there was well-marked lateral nystagmus, and her speech was of the "scanning" character so typical of insular sclerosis. She walked quite steadily, and Romberg's sign was not present. This patient has been under observation up to the present time, and when last seen a few weeks ago there was little or no change to be noted ; the symptoms have not increased nor have they to any appreciable extent improved.

We have here a child in whom the three symptoms formulated by Charcot as characteristic of multiple sclerosis are all present, and as a large number of cases of this disease occurring in children have been recorded, it is only natural that such a diagnosis should be the first to be suggested by the majority of those who have seen this patient. Müller,* in a recent monograph on multiple cerebral

* Pfaundler and Schlossman, vol. iv, p. 236.

and spinal sclerosis, has clearly defined the anatomical changes found in this disease; he asserts that they consist in the presence of numerous dense yellowish-white foci in the spinal cord, medulla oblongata, and cerebrum, which on microscopical examination show excessive proliferation of the neuroglia. The nervous tissue itself shows very little change, the axis cylinders of the nerve-fibres within the diseased areas are for the most part preserved, and the ganglion cells are not destroyed; secondary degeneration of the nerve-tracts is usually absent. Schupfer, in a contribution on infantile insular sclerosis, states that many of the cases which have been described as such, and in which intention tremor, scanning speech, and nystagmus were all present, have on pathological examination proved to be cases of pseudo-sclerosis, hereditary syphilis, or cerebral infantile palsy, and in none of the cases was the positive sign of exclusive disease of the neuroglial tissue found. Under these circumstances, if we accept these views, we are not justified in making a diagnosis of multiple sclerosis in the child based on clinical symptoms alone, and in the case which I have related when we consider the sudden onset of the illness and the arrest of symptoms, or rather their failure to steadily progress, it would seem more rational to ascribe them to a disseminated myelo-encephalitis in which multiple inflammatory foci have run a chronic course, resulting in patches of sclerosis which have eventually developed a clinical picture indistinguishable from that of insular sclerosis.

These four cases I venture to think aptly illustrate the variety of symptoms which acute encephalitis in childhood may present. In all of them the exact nature of the lesion lacks pathological proof; but from their sudden onset and the close similarity of the symptoms to cases in which the diagnosis has been confirmed by post-mortem examination, it does not seem unreasonable to ascribe them to an inflammatory process affecting the central nervous system. As to the cause, the influenza bacillus and the meningo-coccus have repeatedly been found in encephalitic foci; but in many other cases that occur the infective agent would appear to belong to that class of the minute viruses which up to the present time have escaped microscopical and cultural demonstration.

In conclusion, I would emphasise that in any disease beginning acutely with fever, cerebral irritation, and rapidly developing focal symptoms, the possibility of acute encephalitis should be borne in mind, and if after the acute stage has passed off the symptoms of cerebral palsy persist, the diagnosis is practically confirmed.

POLIOENCEPHALITIS OF THE CEREBELLO-RUBRO-SPINAL SYSTEM—A CAUSE OF "ACUTE TREMOR" IN CHILDREN.

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The fact that the acute infective process which attacks the cells of the anterior horn of the spinal cord, and which has therefore been called acute anterior poliomyelitis, is not limited in its action to those cells, is now generally recognised, and the condition is more correctly spoken of as acute poliomyelitis. It is not, however, so generally recognised that this morbific agent can affect higher levels in the nervous system, resulting in a polioencephalitis. The two conditions may occur together: polioencephalomyelitis, a cumbersome but expressive term. Flexner and Lewis have proved experimentally that these two conditions are manifestations of the same disease. Using the cord of a child who died from acute poliomyelitis, they were able to reproduce in a monkey identical lesions, not only in the cord, but also in the medulla. They have also found in monkeys in which they reproduced the disease changes in the intervertebral ganglia similar to those present in the spinal cord and brain in every case in which they have been looked for. Indeed, our conception of this disease must be that it is very general throughout the nervous system, attacking especially the grey matter and producing widespread results, some of which are temporary and completely clear up, others—the residual palsies—where actual destruction has taken place being permanent.

Polioencephalitis presents a symptomatology which varies greatly with the part of the brain chiefly affected. Thus, if it affects the cerebral cortex, convulsions, infantile hemiplegia, mental deficiency, and epilepsy may result. If the mid-brain, nuclear palsies of the nerves which arise in that region, III, IV, also lesions of the red nucleus and its connections, producing the characteristic symptoms to be described later. If the pons, nuclear palsies of V, VII, etc. If the cerebellum, frequently there develops a wild ataxia, the "acute ataxia" of Leyden, accompanied by hypotonus of the muscles, and possibly nystagmus. In this paper I wish to refer to polioencephalitis affecting the cerebello-rubro-spinal system. The condition was first described by Miller in a recent number of 'Brain,'

under the title, "On Certain Cases of Acute Tremor occurring in Children." I wish to place on record three additional cases, and refer also to a fourth case which came under my notice and which is included by Miller in his series.

The cerebello-rubro-spinal system is motor in function, and consists of two parts—the cerebello-rubral and rubro-spinal. The former links the dentate nucleus of the cerebellum with the red nucleus of the opposite side *viâ* the superior cerebellar peduncle, and in the latter the red nucleus is connected by the tractus rubro-spinalis, or Monakow's bundle, with the opposite side of the spinal cord. There are therefore two decussations in this system, and they both occur in close proximity to the red nucleus. In its course through the pons Monakow's bundle passes close to the seventh nerve nucleus, whilst in the cord it is closely related to the pyramidal tract. The red nucleus itself is developmentally a portion of the thalamencephalon, and its anterior end projects within the usual anatomical limits of the thalamus; posteriorly it extends so far into the midbrain that the roots of the oculomotor nerves either pass through it or are in close proximity.

Gordon Holmes has shown that a destructive lesion of this system produces a slow, coarse, regular tremor of a rate 3–5 per second. It is involuntary, can only be checked for the shortest space of time, and volitional movement of the affected limbs is complicated by an irregularity of the intention tremor type like that met with in disseminated sclerosis. He has also pointed out that combined with this tremor is a certain degree of paresis and rigidity; in fact, that there is a close resemblance to the classical symptomatology of paralysis agitans.

From what has been said of the distribution of this system it follows that if the tremor is due to destruction of any part of it, the movement will be on the same side as the lesion, unless the red nucleus or its immediate neighbourhood be affected, when the tremor will be contralateral.

In the series of cases about to be described and in Miller's series the symptoms present agreed with those pointed out by Holmes. To use Miller's words: "The tremor which, with its acute onset, is characteristic of these cases corresponds exactly with that described by Gordon Holmes. It is a slow, regular tremor, in rate about five per second, which at its worst is continuous except during sleep, although increased by voluntary movement or during periods of excitement. It may be universal in the head, tongue, and muscles of the trunk, abdomen, and limbs, and it is sometimes more definite

in the proximal than in the peripheral parts of the extremities. In some of these cases the appearance of the child is very like that of one shivering all over from cold. Combined with the tremor is hypertonus, giving to the limbs some degree of uselessness, and rendering their movement slow, stiff, and awkward, and this in the absence of true spasticity. The important symptoms are three—the acute onset, the tremor, and the hypertonus. The two latter serve to separate the condition from cerebellar encephalitis in which there is hypotonus and ataxia, possibly also nystagmus and scanning speech." Other signs and symptoms that may be present in these cases are those due to the disease attacking other parts of the brain and cord, and also from involvement of parts of the brain in the immediate vicinity of the cerebello-rubro-spinal system, *e. g.* oculo-motor, VII nuclei, etc.

Case 1.—F. A—, a girl, aged 2 years and 3 months, was at play, apparently quite well, on the evening of July the 15th, 1909. When put to bed it was noticed that she was feverish. At 10 p.m. she had a "fit," in which she became stiff and unconscious, but there was no twitching; this lasted about fifteen minutes, and soon afterwards she fell asleep. Immediately after waking up at 10 a.m. the next morning she had another "fit," after which she slept till 12 noon, when yet another "fit" occurred. On recovering consciousness she said "Oh," and it was noticed that she was trembling all over, the tremor affecting the tongue, arms, legs, and trunk, and was exactly like shivering. It was markedly less (if present at all) during sleep. For nearly three weeks she remained in bed, during which time the tremor persisted, she was apparently conscious, took her milk, but her eyes were fixed and staring, and she did not appear to see anything, nor did she speak. At the end of the first week after the onset of this illness pneumonia developed. She was admitted to the Hospital for Sick Children on August the 2nd, under Dr. Garrod, to whom I am indebted for permission to publish her case.

The family history showed nothing of note. She had been a quick and intelligent child up to the onset of the illness, and was able to talk quite well. On admission there was slight retraction of the head, her expression was staring, and she was apparently quite blind. There was present a slow rhythmic tremor of the arms, its character being that described previously, associated with which was well-marked rigidity of the limbs, but with no evidence of paresis. The knee-jerks and abdominal reflexes were present, and the plantar responses were of the flexor type. Both pupils reacted to light, *i. e.*

the reflex arc was intact, and the fundi showed no changes. There was also well-marked broncho-pneumonia.

On August the 13th the temperature fell to normal, and the chest signs soon cleared up. The tremor had been present continuously except during sleep, and on this day the tongue was seen to be affected. The cerebro-spinal fluid was examined on the 19th, and no lymphocytosis or organisms were found. Von Pirquet's reaction was negative. About the 24th the child spoke for the first time since July the 16th, and it was noticed that her sight had returned. On the 26th she was able to sit up, but on doing so the characteristic tremor appeared not only in the arms, but also in the trunk and legs, *i. e.* voluntary movement had caused its return in those parts. On September the 4th the tremor was absent when the limbs were at rest, and only brought out by voluntary movement. She made her first attempt to walk on this day. From then until she left the hospital on September the 12th the tremor improved, returning less and less on volitional movement. It was noticeable for the longest period in her arms, and at the time of her discharge had not entirely disappeared when voluntary movements were undertaken. There was also considerable stiffness of the limbs remaining. At no time was there any nystagmus or change in either ocular fundus.

She was last seen on February the 8th, 1910, when she appeared quite well and talked freely. Her mental condition was fair, possibly not quite so good as before her illness. She was still rather slow and stiff in her movements, and after a considerable amount of voluntary movement or excitement a slight tremor appeared in the left arm, affecting chiefly its upper part.

The lesion here probably not only affected the red nucleus or its connections, producing the tremor, but also the cerebral cortex, more particularly the occipital cortex of both sides, since transient blindness, convulsions, loss of speech, and possibly some loss of mental power, were present.

Case 2.—F. H—, a boy, aged 4 years, complained of feeling tired at mid-day on September the 30th, 1909. He slept all afternoon, and on waking it was noticed that he could not hold his teacup because his hands were shaking; he was able to walk. The character of the tremor, as illustrated by his mother, was precisely that of paralysis agitans. He was very restless through the ensuing night; in the morning the trembling in the arms persisted, and there was also slight trembling in both legs. During this day he was drowsy, sleeping in snatches, and refused all solid food, but took

liquids. The tremor was noticed to stop when he was asleep, and to be much increased by voluntary movement. Trembling of the legs increased until in the afternoon he could walk, but only with difficulty. He was seen by Dr. Lund, of South Kensington, on this day, who tested the character of the tremor by asking the boy to take a glass of water off the table. His hand was noticed to shake more and more as it approached the glass, *i. e.* the tremor was of the intention type. His temperature was 102° F. The following day, October the 2nd, he remained in bed, sleeping a great part of the time, every now and again stretching out his arms, and lateral nystagmus was noticed. On October the 3rd he was much better, his mind was clearer, the nystagmus and trembling had stopped, he could move his arms and legs quite well, but could not sit up, and internal squint of the left eye was noticed. From this time until October the 5th, when he was admitted to the West London Hospital, he was unable to sit up, and seemed to lose power in his back, and on that day he was unable to hold up his head, which fell forwards; the squint was more noticeable, and he complained of pain in both shoulders. He was able to speak all through his illness, and did not "lose his voice," *i. e.* the intercostals were unparalysed. There was nothing of any moment in the past or family history. While an in-patient at the West London no tremor or nystagmus was observed; there was weakness of the right arm and leg, with complete R.D. in tibialis anticus and peronei.

After his discharge from the West London Hospital he was noticed to be slower and stiffer in his movements than formerly; his mental condition was not so active, and his memory not so good as before the onset of the illness.

When I first saw the boy on November the 15th, 1909, he was robust, well nourished, with no apparent mental impairment, and no trace of the tremor. There was no facial palsy or squint. The right arm was slightly weaker and thinner than the left, but recovery had apparently been almost complete. The right leg was weaker and colder than the left; the foot was in position of talipes equino-varus, with weakness of extensors and peronei. He walked moderately well. The abdominal reflexes were present; the left knee-jerk and the plantars were flexor. The right knee-jerk was absent. When last seen (January, 1910) it was impossible to discover any weakness of the right arm, and his walking showed a distinct improvement.

In this case there was doubtless a widespread lesion involving not only the cerebello-rubro-spinal system in probably both of its

divisions—the cerebello-rubral because of the nystagmus, and the rubro-spinal, in the pons, from the fact that there was paralysis of the left sixth cranial nerve—but also a considerable extent of the cord, especially the cervical and lumbar enlargements.

Case 3.—D. H—, a boy, aged 1 year and 8 months, on night of July the 27th, 1909, was "queer and feverish," and was noticed to have a squint. In the morning, left-side facial palsy was discovered. During this and the three days following he was drowsy; he would rouse himself for a drink, but was unable to sit up or to hold up his head. He was apparently unconscious, did not cry, and passed his stools and urine under him. After the third day he recovered consciousness, and was then noticed to be trembling all over, all four limbs being equally affected. To use his mother's words, "he lay on my knee like a shivering lump." He was very weak and unable to sit up. He swallowed well. The rate and amplitude of the tremor, as illustrated by the mother, again in this case resembled that seen in paralysis agitans. The tremor gradually got less during the following week, at the end of which he was able to sit up unaided. A week later he made his first attempt to walk, which brought back the tremor. Eventually the tremor disappeared, but is still noticeable in his arms when excited. He was unable to speak during the first week of his illness, and even now uses fewer words than formerly. He is more irritable, "not so strong on his feet," and his movements are slower and stiffer since his illness. The stiffness was so marked that the mother drew the doctor's attention to it. He was perfectly well until this attack, could walk at a very early age, and talked quite well.

He was first seen on September the 29th, two months after the onset of the illness, and found to be a big and well-nourished child, slightly irritable, but with no mental impairment. There was complete left-sided facial palsy of the peripheral type. The left external rectus was distinctly weak, with the result that an internal squint was present at times. The left conjunctiva appeared to be less sensitive than the right, and the left side of the face was distinctly less sensitive to painful stimuli than the right, *i. e.* the left VII, VI, and V (sensory) were affected. There was no evidence of impairment of motor part of V. The limbs showed no sensory changes. The movements of the arms were rather slow and stiff in character, and when he was excited the tremor was present in them, affecting the proximal rather than the distal portion of the limb. Of reflexes, the abdominals, knee-jerks, and ankle-jerks were present, and the plantars lively and flexor in type.

When last seen (February, 1910) the internal squint was less marked, but the facial palsy and anæsthesia were unchanged; there was no tremor.

The lesion here was on the left side of the pons, affecting the VII, VI, V nerves and the rubro-spinal tract, probably near its decussation, seeing that the tremor was originally present in all four limbs.

Case 4.—A. Q—, a boy, aged 1 year and 3 months, was put to bed well on October the 19th, 1908, and although he slept with his mother, nothing was noticed until the morning, when he was found to be drowsy and to be "shivering" all over, but the limbs were not paralysed. No fits were seen, nor was the boy unconscious. The movements very rapidly got better, but the child was not able to walk for about a fortnight on account of the trembling of the legs. A week after the onset of the illness the right arm became useless, and hung down by the side. This paralysis was not accompanied by any constitutional symptoms, and was first noticed one morning after the child had had a normal night's rest. He was the only child, and had had no previous illness except bilious attacks. There were no cases of infantile paralysis known of in the neighbourhood.

When seen on January the 29th, 1909, he was found to be a strong, fat boy, showing no trace of the tremor described by the mother. He was able to walk well and could say more words than before the illness. No mental impairment could be found. The right arm was paralysed, and hung flaccid at the shoulder. There was slight power in the fingers of the right arm. According to the mother's statement, practically no impairment had taken place in the condition of the arm.

It would appear that a slight lesion had occurred somewhere in the cerebello-rubro-spinal system, and that there had been a relapse a week later (the usual time for a relapse when such does occur), affecting the cervical enlargement of the cord.

From a consideration of these cases it will be seen that they occurred in well-nourished children between the ages of fifteen months and four years, and in the summer and autumn. After a period of constitutional disturbance, varying in degree, which was or was not accompanied with convulsions, unconsciousness and incontinence, the slow rhythmic tremor, having the characters already described, appeared. It affected the limbs, trunk, neck, or tongue, or all of them, and was continuous except during sleep. After a varying period the tremor disappeared, but reappeared for a further length of time under excitement or on voluntary movement, and

remained longest in the proximal parts of the limbs, but eventually completely disappeared. Associated with the tremor was a certain amount of rigidity, which caused the movements of the limbs to be stiff and slow, but the pyramidal tract was never affected. In fact, these cases occurring in children and with an acute onset presented a striking resemblance to the adult disease—paralysis agitans. In addition to the tremor, other symptoms were present due to lesions in other parts of the nervous system.

In passing, it may be pointed out that two of these cases are also interesting in that they show two extremely rare lesions of polioencephalitis, *e. g.* in Case 1 there was transient blindness due to bilateral affection of the occipital cortex, and in Case 3 there is a polioencephalitis affecting the fifth nerve. Bremer has collected the statistics of cases of polioencephalitis at Great Ormond Street Hospital, and finds that out of 400 cases admitted in ten years only one showed transient blindness, and that lesions of the fifth nerve occurred in two.

The statement has been made that the cases described in this paper are instances of polioencephalitis attacking the cerebello-rubro-spinal system. There is at present no pathological evidence to confirm this view, because the illness is usually recovered from, as in poliomyelitis, but the localisation of the lesion in some part of the cerebro-rubro-spinal system appears to be quite justified in the light of Holmes's researches. Indeed, in some cases it seems possible to go further and to indicate which part of the system is affected—the cerebello-rubral if there is associated with the tremor some nystagmus; the rubro-spinal if there are associated V, VI, VII nerve palsies.

In the absence of pathological evidence that the lesion is of the nature of a polioencephalitis (*i. e.* a disease affecting the brain in identically the same way as poliomyelitis does the cord), recourse must be had to clinical evidence, which may be summed up thus (Miller):

(1) The subjects of poliomyelitis are often strong and fat. This rule holds good in these cases.

(2) The seasonal (July–October) and the age (fifteen months to four years) incidence corresponds to that of acute poliomyelitis.

(3) The amount of constitutional disturbance at the onset of the disease is very variable, as in poliomyelitis, although it is natural to suppose that convulsions and unconsciousness are likely to be of more common occurrence.

(4) In poliomyelitis and in these cases the onset is acute and the

harm done reaches a maximum within a few hours. (It may extend over twenty-four hours—Gowers: compare Case 2 reported here.) Care must, however, be taken in examining the clinical history of the illness, for if the child is drowsy or unconscious the tremor may not be seen or be regarded as a convulsion, and it may be stated that the trembling came on some days after the illness.

(5) As in poliomyelitis the tendency of the disease is towards improvement or total recovery, while relapses are very exceptional.

(6) The result of examination of the cerebro-spinal fluid in those cases where it has been carried out is negative, as in spinal cases.

In no case had there been any of the exanthemata within a few months prior to the attack. This has previously been noted in polioencephalitis, and has been used as evidence against the essential similarity of poliomyelitis and polioencephalitis, but it is extremely doubtful whether poliomyelitis is as frequently preceded by the exanthemata as is commonly stated. Miller gives the figures for 1906 of the Great Ormond Street Hospital. Out of fifteen cases eight had never had any of the exanthemata at any time, and only one within three months of the paralysis. Out of twenty-six cases that I have seen whose onset occurred in 1909, twenty-one had never suffered from any of the exanthemata at any time, and only one within three months of the attack of poliomyelitis.

But there is more definite clinical evidence that these cases are examples of polioencephalitis:

(1) In Case 2 we have a spinal lesion, unquestionably acute poliomyelitis, affecting both right arm and leg, and occurring *at the same time* as the tremor. This may safely be said to constitute as positive a proof as is possible in the absence of pathological evidence.

(2) In Case 4 a spinal lesion, undoubtedly acute poliomyelitis, occurred as a relapse one week after (the commonest time for a relapse to occur) the development of the tremor.

Polioencephalitis will not account for all forms of acute tremor, for it has been seen associated with a tuberculous tumour, but a diagnosis of polioencephalitis can usually be made by a consideration of the type and age of the child, the season of the year, character of the onset, and the course of the disease, the absence of changes in the fundi oculorum and cerebro-spinal fluid, and in those cases where it does occur, the presence of an associated poliomyelitis.

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A SUGGESTED PLAN FOR A MODEL CRÈCHE.

By Bernard Myers, M.D.

In recent years much good work has been accomplished in the improvement of crèches by a band of most earnest lady workers who have the subject deeply at heart, and it almost seems to be a presumption to make suggestions to them in this direction. The work of Emily Viscountess Helmsley (and her able help, Mrs. Meyer), has probably made for the great advance in the crèche generally which is everywhere discernible. The fervour, self-sacrifice, and devotion which scores of ladies have shown in the welfare of their crèches speaks well for the fine altruistic feeling which must be present. In this child life-saving work the medical profession has not been tardy with its help, and an excellent article written by Dr. Toogood ("The *Rôle* of the Crèche," in a book called 'Infancy,') should be read by all who are interested in this subject.

Having recently been invited to speak to some ladies interested in crèches, I took as my theme "the model crèche," and the chief suggestions which I made for their consideration were the following:

That the ideal or model crèche should be so arranged (*a*) that the day-nurseries, bath-rooms, etc., for the children's use ought to be on the ground floor; (*b*) that the kitchen, scullery, larder, pantry, mother's dining-room, and a laundry-room should be situated in the basement; and (*c*) that the matron's and nurses' bedrooms, sitting-room, students' room, cloak-room, etc., could be conveniently placed on the first floor.

The kitchen might be built beneath the coldest day-nursery; this would warm the latter in the winter, whilst in the summer the use of a gas-cooker and gas hot-water-heater would obviate the possibility of overheating the day-nursery in question. In practice this plan costs actually less than to use the ordinary kitchen range in the summer-time.

A mother's dining-room is called for in order to allow all those

mothers who can feed their babes at midday to have a meal before feeding their little ones. If mothers be allowed in the kitchen some slight disturbance of the harmonious working of the crèche is bound to be observed.

Although a laundry-room is suggested in the basement, it is only for ordinary washing, as the presence of much steam there could not be allowed.

It will be noticed that I made a special point of a sitting-room on the first floor, for the use of the matron and the nurses—this I maintain they well deserve.

The students' room for the use of young ladies from high schools, etc., or young girls from the council schools, who, attending once weekly for a definite period, could learn to cut out and make children's clothes for their own edification and the children's benefit. On the ground floor they would also be taught to bathe, dress, feed, and take care of the little ones.

I suggest three day-nurseries on the ground floor—one for children up to two years old, another for children between the ages of two and five years, and further, a small day-nursery for what might be termed "doubtful cases." The doubtful cases would include those children who are apparently well themselves, but who have come from a street in which there exists some slight infectious disease.

The matron's room is so situated that by means of little windows she can see into the receiving room, the three day-nurseries, the exit passage, and the clothes-changing room; thus she can easily ascertain everything that is taking place with regard to the children. The matron's room could also do the service of accommodating the committee for the meetings.

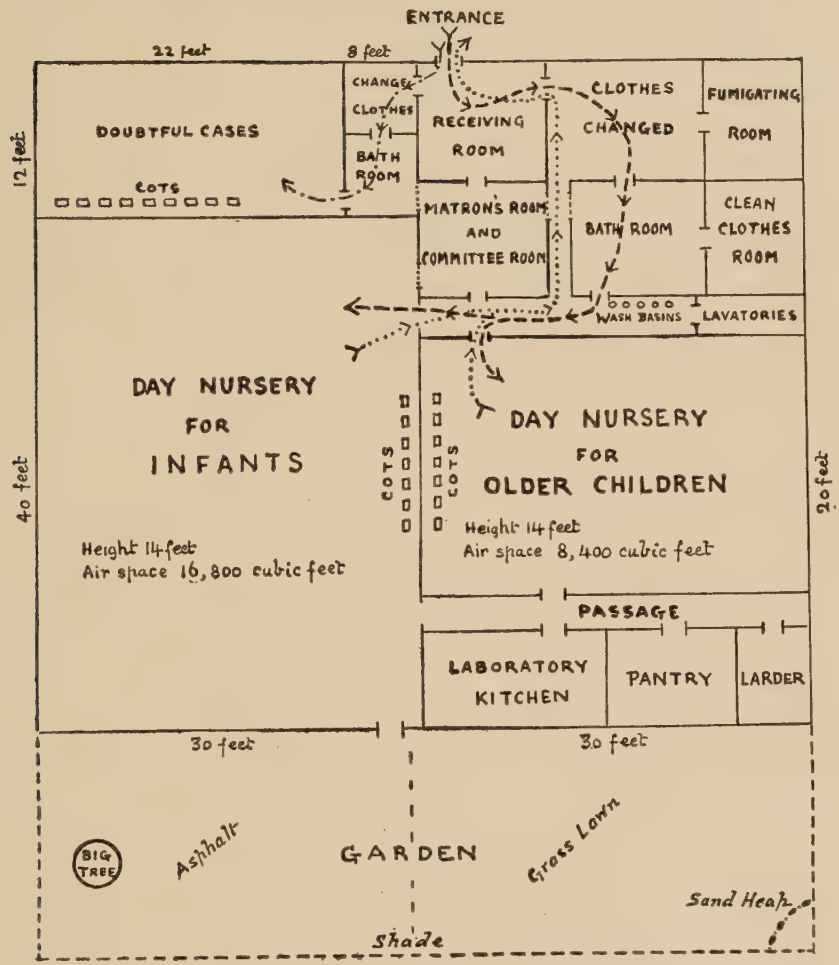
In the laboratory-kitchen the staff nurse would prepare daily the milk mixtures, etc., for each infant according to the doctor's prescriptions.

The accompanying diagram will explain my meaning much better than any words.

A nurse versed in the Froebel system would probably be the ideal person to have charge of the day-nursery for older children. Naturally, this means extra expense, but the results which could be obtained by such a nurse would more than balance the extra expense incurred.

Only the mere outline of the idea is given, and such important matters as ventilation and the routine of the day-nurseries are not considered here. I shall probably be told that the expense of

building such a crèche is prohibitive; this I do not believe, as the proper quarter for the fulfilment of this important matter is surely either the Government (by a special grant), or the Local Government Board. If neither of them will do this alone, perhaps one of them



NOTE.—The arrows indicate the entrance to, and exit from, the day nurseries.

would be willing to donate pound for pound to the amount of subscriptions which could be raised privately on behalf of this very important work, "the improvement and enlargement of our crèches." Beyond doubt some people will reply to my suggestions, that as a rule the crèche committees have to transform old houses into crèches, therefore, how is it possible to attempt to establish ideal

crèches? Now, I should be one of the last to deny full credit to the Gargantuan amount of useful and unselfish work which has been done regularly for many years by the members of the crèche committees, but they have been handicapped by want of funds in many instances, but may I also dare to say, with due humility, that I do not think that the best use is always made of the space available.

The Royal Society of Medicine.

SECTION FOR THE STUDY OF DISEASE IN CHILDREN.

Friday, May the 27th, 1910.

Dr. Walter Carr *in the Chair.*

A Case of Ateleiosis.—Dr. Parkes Weber showed a man, aged 42 years, whose physical development is said to have been arrested at the age of nine. The patient was an infantile dwarf, whose physical development roughly corresponded to that of a boy aged nine, but his expression, the wrinkles on his face, his attitude, his manner of speaking, and his general behaviour were those of an adult. He was born in 1868, and it is said that his development had been normal up to the age of nine, but that it then ceased. The shape of his trunk, the undeveloped state of his sexual organs, the absence of any "pomum Adami," and the high pitch of his voice were those of a child. There was no hair upon his face or pubes. Mentally he seemed normal. Skiagrams of the extremities showed persistence of some of the epiphysial cartilages, but the amount of union with the diaphyses varied considerably in different bones. There was no history of any similar condition in the family.

Dr. Shuttleworth said the condition was evidently a rare one, and it did not suggest to him any cretinism; the ateleiosis was the prominent character. Until the cases of sporadic cretinism were investigated so thoroughly as recently, such cases were probably lumped together with cases of cretinism; the differences between infantilism and cretinism were not then known. Very little had appeared in English on the condition, but he heard Mr. Hastings Gilford lecture on them, that authority pointing out that cases like the present one were allied to gigantism. The man now shown seemed to exhibit as much intelligence as could be expected considering the fact that during childhood he never went to school. He had some intelligence, as he earned eighteen shillings per week washing and counting bottles.

The Chairman asked what Dr. Weber suggested was the probable causation of the curious arrest of development in certain directions.

Dr. Parkes Weber replied that he was glad it was thought that there was no cretinism in the case. He could not give any suggestion as to causation. He showed some skiagrams.

A Case of (?) Myositis Fibrosa.—Dr. Walter Carr showed this patient, a girl, aged $4\frac{1}{2}$ years. There were three other children in the family, all healthy. The child had begun to walk when sixteen months old, but six months later was unable to walk or stand. Two years ago her arms had become weak. The child could not fully extend either the hips or the knees; there was no limitation of flexion, but abduction of the hips was much restricted. The left arm could not be completely supinated. There was no pain on movement; there was no rigidity of the muscles. The mental condition was normal. Skiagrams showed no definite evidence of bone disease, nor any ossification of the muscles. Some others who had examined the child thought there was some peri-articular thickening. There was slight wasting of muscles, which he regarded as due to tissue. There was no evidence of cartilages or bones being affected. It was not a primary muscular dystrophy, and there was no evidence of myositis ossificans. He did not think the amount of contraction of muscles was sufficient to account for the fixation of joints. Under anæsthesia the fixation remained as at present. A piece of muscle had been removed from the pronator radii teres, and microscopical examination did not show anything abnormal. The question was whether it was primarily a muscle lesion or a joint lesion. For some weeks he had given iodolysin by the mouth, and the lower part of the body had been put into a Tallerman bath, up to 150° F., fifteen minutes at a time, and massage and passive movements had been employed. Some improvement was noticed in the joints on the right side, not on the left.

Dr. Cautley, in discussing the case, said he doubted the condition being one of myositis fibrosa, and thought it analogous to the contracture of limbs which one saw in prolonged toxæmic conditions where the patients were confined to bed.

Mr. Lockhart Mummery agreed with Dr. Cautley that it was not ossificans fibrosa; the muscles felt normal. There seemed to be an absence of a satisfactory history. It seemed certain that the child must have suffered from an infective condition. He thought it a case of adhesions round the joints; there was no adhesion inside the joints, and the movements were smooth. The contraction of muscles he regarded as secondary to deformity of the joints, and the case coincided with those seen in children who had had improper treatment during a prolonged illness. He recommended that extension, by means of weights, should be put on both limbs for as long as five or six months, the weights being as much as the child could bear without pain and without the strapping cutting into the skin. The muscles and the fascial planes were shortened. He was not so sure that the hips could be got straight. He had tried iodolysin in several cases, and he had not been well pleased with it; there was some improvement for a week or two, and then the improvement stopped; one or two patients seemed to have got ill as the result of the use of fibrolysin and iodolysin. The present child should be watched. Two of his cases resembled erysipelas.

A Case of Amaurotic Family Idiocy.—Dr. Bellingham Smith showed the patient, a female, aged 11 months, who was brought to the hospital for blindness and inability to sit or hold her head up. The symptoms had only been noted for one month. The child was exceedingly fat, but the general condition was one of extreme apathy; no movements of head or body were attempted, and those of the limbs were limited. Further examination of the limbs revealed a variable degree of rigidity. An ophthalmoscopic examination revealed changes characteristic of the condition. These

changes were bilateral, and consisted of marked pallor of the optic discs, while in the yellow spot region there was a greyish-white area surrounding a bright pink spot. There had been no change in the condition since the patient had been in the hospital. Examination of the cerebro-spinal fluid and the Wassermann test had proved negative.

Two Cases of Congenital Malformation of the Heart were shown by Dr. WHIPHAM.

The first was a child, aged $1\frac{3}{4}$ years. Cyanosis was first seen when he was a fortnight old, and had persisted. It was very marked on the face; the extremities were deeply congested, and all the digits were clubbed. The heart was enlarged. At times there was no murmur, while at others a soft systolic brûit was audible in the pulmonary area. The child also had congenital ptosis of both eyelids. A blood count showed 9,440,000 red corpuscles and a hæmoglobin value of 170 per cent.

The second case was a girl, aged 18 years, with congenital pulmonary stenosis. She had always been cyanosed, and suffered from shortness of breath, but had had no other cardiac symptoms. She presented a typical blue appearance and clubbing of the digits. The heart was enlarged, and there was a typical rough systolic murmur.

The cases were discussed by the CHAIRMAN, by Dr. FRANCIS HAWKINS, who quoted a similar case of his own, who had been kept under observation until twenty-one years of age, and another case which had reached adult life. The case was also discussed by Dr. PARKES WEBER and Dr. CAUTLEY.

A Case of Air-swallowing in a Boy aged 12 years was shown by Dr. WHIPHAM. There was a habit of continuous forced eructations. The abdomen was not enlarged. The patient had suffered from a similar condition two years previously.

Dr. WEBER said there was a means of stopping the habit, namely, by applying to the mouth a rubber gag, which kept the teeth apart. It might not, however, remove the abdominal discomfort.

A Specimen of a Sarcomatous Tumour from a Child aged 2 years was exhibited by Dr. HILDRED CARLYLL. The specimen was removed from a girl who was admitted to the hospital suffering from distension of the abdomen, which had been noticed six weeks prior to admission. Abdominal exploration gave a negative result and exploratory laparotomy was performed. The tumour was discovered; it appeared irremovable, and the abdomen was closed. The child died a week after admission. At the post-mortem, the tumour, which weighed six and a half pounds, was found to be attached only by a few adhesions to the bladder, and by a branch of the left common iliac artery, and had a thin peritoneal covering. Microscopically it was myxo-sarcoma.

A Pathological Report on a Case of Myelogenous Leukæmia was read by Dr. WHIPHAM. The infant, aged 18 months, had been shown at a meeting of the Society on February the 25th, 1910.

A Paper on a Case of Malignant Endocarditis of the Tricuspid Valve in a Child aged 6 years was read by Dr. FRANCIS HAWKINS, and discussed by Dr. BELLINGHAM SMITH, Dr. CAUTLEY, and the CHAIRMAN.

Société de Pédiatrie, Paris.

April the 19th, 1910.

At this meeting the President, M. Charles Leroux, announced with regret the death of Dr. George Carpenter, who was foreign corresponding member of the Society.

The Acetic Sublimate Reaction on the Stools.—M. Triboulet replied to certain criticisms with reference to this reaction made by MM. Aviragnet and Dorlencourt (Société de Pédiatrie, March, 1910), in which he re-affirmed its value in the prognosis of several infantile diseases.

M. Variot corroborated the results of M. Triboulet. In a large majority of cases the indications afforded by this method of investigation, which was as simple as it was practical, were in agreement with the clinical results of gastro-intestinal disorders. He did not speak of measles, scarlatina or diphtheria in which he had not tried the reaction, but he considered that it might be useful in estimating the danger and duration of gastro-intestinal disorders in early infancy.

Meyer's Reaction in Nephritis.—MM. G. Paisseau and L. Tixier find as the result of their experiments that this reaction, which is based on phenolphthalein, is invariably negative in degenerative nephritis, while it is positive in congestive nephritis.

A Case of Chorea.—M. Triboulet related the case of a boy, aged 9 years, who suffered from a severe attack of chorea which had lasted two months, with febrile disturbance caused by a number of bed-sores, and excoriations of the skin. He suddenly recovered on the appearance of a suppurative arthritis of the elbow, which was surgically treated. Under the influence of digestive disturbances caused by over-eating, choreic movements reappeared for fifteen days.

A Case of Old Bulbar Paralysis in a Boy, aged 11 years.—MM. Variot and Charles Robert reported this case. The child walked with his legs far apart and took small steps. The right forearm was kept flexed on the arm. There was slight rigidity of the lower limbs, especially the right, and on abducting the thigh; the difference was more marked in the arms. Reflexes much exaggerated in lower limbs. Babinski's sign doubtful. No abnormality of sensation, nor muscular atrophy. He could neither speak nor imitate sounds. The lip muscles were not paralysed, but their movements were diminished. Complete protrusion of the tongue was impossible.

Achondroplasia.—M. Apert showed a boy, aged 16 years and 4 months. Radiographs showed in an exaggerated fashion the characteristics of the disease, and that the ossification of the epiphyses appeared at the normal time.

M. Variot was of opinion with regard to this last fact that the case was one of "osseous dysplasia," distinct from the true achondroplasia of Parrot, in which ossification is much retarded.

Scoliosis aggravated by Gymnastics.—M. Ombrédanne read a paper showing that in true scoliosis with cuneiform vertebræ, easy to recognise by the fact that anterior inclination increases the deformity, all movements of flexion of the trunk must be prohibited.

M. Ombrédanne also showed a case of **Ranula in which the Fluid exuded through Wharton's Duct**.

Pylorospasm of the New-born.—M. Henri Dufour described a case of intractable vomiting, for the cure of which the administration of pepsine was eventually successful after all other methods had been tried. He thought such cases should be called gastro-spasm rather than pylorospasm and were associated with defective gastric chemistry and reflexivity.

M. Comby mentioned a similar case in which nothing but change of nurse stopped the vomiting.

M. Variot agreed that this kind of vomiting was due to spasm of the entire stomach and not to a hypothetical pylorospasm. This could be demonstrated on the fluorescent screen. He also agreed with the beneficial effects of change of nurse as mentioned by M. Comby, but he had also obtained excellent results by milk super-heated to 108° or homogenised and with a small quantity of citrate of soda added.

Congenital Stenosis of Aorta.—MM. Variot and Roudinesco showed a boy, aged 10 years, in whom functional disturbances, pain and palpitation were absent, but who had a well-marked præcordial systolic thrill. The pulse in the radials was unequal, and presented marked divergence in the sphygmographs.

Obstetrical Paralysis of the Lower Limbs.—MM. Variot and Bonniot showed a boy, aged $5\frac{1}{2}$ months, born by breech presentation after a labour of six hours. The limbs were noticed to be flaccid and inert from birth. Cremasteric and patellar reflexes lost, tendon Achillis reflex normal. Electrical reactions showed the roots of the second to fifth lumbar, first, and perhaps second sacral nerves were affected.

Case of Mitral Stenosis with Dwarfism.—MM. Mery and Roux showed a girl, aged 12 years. Her height was 1 m. 20, weight 20 kilog., thoracic circumference 58 cm.

Thrombosis of the Left Renal Vein in a Child aged 15 Months.—MM. Richardière and E. Merle described this case. Admitted for broncho-pneumonia, death took place fourteen days later. The left kidney weighed 120 grm., was dark red and ecchymosed; the renal vein was occupied by a large clot extending almost from the vena cava to the hilum. The thrombosis seemed analogous to that of the adult, except in difference of location, *i. e.* a venous infection consecutive to a septicæmic condition, and comparable to phlegmasia dolens, and the presence of staphylococci in the clot in immediate contact with the endothelium gave support to this view.

Operation for Spina Bifida.—M. Lamy brought forward this case. The child was operated on three and a half hours after birth. A woodcut is given of the operation, which was entirely successful.

Vincent Dickinson.

Philadelphia Pediatric Society.

Meeting, April the 12th, 1910, Charles A. Fife, M.D., President.

Several Cases of Bradycardia in One Family.—Drs. Z. M. K. Fulton (by invitation), G. W. Norris, and C. F. Judson exhibited three cases of heart-block and bradycardia in one family, one of them an infant. All showed the influence of heredity. The father, aged 41 years, had a pulse of 50 and suffered from angina pectoris and the Stokes-Adams' syndrome. The oldest daughter, aged 20 years, showed a pulse-rate of 60 68, was pale, easily tired, and a great sufferer from headache. Her jugular tracings showed heart-block. She had never had any syncopal attacks, but was easily winded on exertion. The baby, now ten years old, had shown a slow pulse of 40–50, which was found in the first week of life. He enjoyed good health during his first year and weathered a severe attack of broncho-pneumonia in his second year. Whether the cause of his bradycardia lies in an anatomical lesion in the bundle of His or is functional in nature must remain undecided.

Dr. William Pepper said that he felt that when this series of cases should be brought to the attention of those interested in the modern physiology of the heart, a good deal of speculation would arise, with the possible result of altering in some respects the views now held concerning the physiology of the heart. Although cases of heart-block have been reported in increasing numbers, Dr. Pepper thought this series of cases in one family unique. While it is impossible to explain this series of cases, they must be regarded as more than a mere coincidence. He imagined that Dr. Norris's last explanation might be correct, that it was some anatomical fault or peculiarity transmitted hereditarily. The tracings undoubtedly show a complete block, or complete dissociation between the auricles and ventricles. He thought that Dr. Norris had made out his case in claiming that the vagus nerve was not at fault, but that the lesion was actually in the bundle of His itself. That such a lesion could be transmitted from father to offspring seems a little hard to believe; although, since so many other conditions are transmitted in this way, there is no sufficient reason why this very important, though very minute, portion of the human anatomy should not also be liable to hereditary disturbances. The series of cases show that heart-block may develop where there is every reason to believe that no such lesion as sclerosis or gumma is present. In these cases there was probably merely a slight anatomical deviation or peculiarity transmitted to various members of the family, yet this lesion was at times sufficient to cut off the impulses that normally go through the bundle of His. At other times the bundle was apparently able to transmit these impulses perfectly well; and at still other times the impulses got through only imperfectly. Therefore all three conditions, complete block, incomplete block, and normal rhythm, were present at different times. For this reason, it might also be argued, the condition may not be due to an anatomical lesion, but may be purely functional.

Dr. Fulton said that he had found in the boy a constantly slow pulse. When at rest his pulse-rate was 40; when crying or disturbed it would not go above 50. It seldom went above 50, except a year ago, when the child had pneumonia; and even then it was not above 80. The heart always seemed to work well, and there never seemed to be any failure in circulation. The

child stood the attack of pneumonia as well as a child with a normal heart would.

Very Large Psoas Abscess.—Dr. J. T. Rugh showed a boy, aged 8 years, with a large dorsal kyphosis, who had had a large psoas abscess, extending to the left knee. His mother died of tuberculosis when he was three months old. At one year a knuckle was first noticed in his spine, but he went without treatment until three years old, when a plaster jacket was applied, which was worn only two months. No other form of appliance has since been worn. He never complained of pain though the deformity gradually increased. At five years a lump was first noted in the left thigh below Poupart's ligament, increasing and moving progressively lower till it reached the knee. By aspiration a quart of tuberculous pus was removed, an ounce of 10 per cent. iodoform emulsion injected and the cavity sealed. This was repeated four and ten days later, and the opening now remains, discharging a few drops of serum daily. Two months later a half ounce of bismuth paste was twice injected, at intervals of five days, after which a firm bandage was applied, and Dr. Rugh expects closure of the opening soon. The case shows to what degree nature will sometimes care for a person. It also illustrated the tremendous size a psoas abscess may attain and how it will travel before rupturing. The spine is practically solid now, and the need of a jacket or support of any kind has passed.

Dr. Thomas O'Hara referred to a similar case that he had just seen at the University. The abscess was not so large as that in Dr. Rugh's case. Most of it was below Poupart's ligament, this part of the abscess being half again as large as an ordinary fist, but the part above Poupart's ligament was also quite large. The boy was ten years old, and the disease was of five years' duration, and had pursued a normal course. The abscess came on quite late in the disease, in its fifth or sixth year, and was probably due to the carelessness of the caretaker of the child. The brace was in bad condition and gave imperfect support. Up to this time the patient had been doing well. The child had not been brought to the dispensary for some time. These facts probably account for the late occurrence of the abscess.

Dr. Rugh remarked that he always follows out a certain line of treatment in these cases, in this way: If the abscess is rapidly enlarging, pointing, or interfering with the health of the patient, he opens it. If, however, none of these conditions is present, he lets it alone, because tuberculous abscesses are not real abscesses. He aspirates, instead of opening and draining such abscess, and his results have been much better than when he opened and drained with the persistence of a tuberculous sinus which becomes the seat of mixed infection and causes ill-health, amyloid changes in the internal organs, and the dissemination of the disease process. These bad features can often be obviated by simple aspiration. In other cases like that mentioned by Dr. O'Hara, in which brace-treatment is being followed, an increase of the support and fixation will often do away with the psoas abscess. Dr. Rugh had seen cases in which the abscess had appeared and disappeared three different times, and finally remained away under efficient support.

General Streptococcic Infection, with Symptoms of Empyema.—Dr. Eleanor C. Jones reported the case of a boy, aged $2\frac{1}{2}$ years, with a most unusual temperature range. The chart shows a daily variation of from 5° to 8°. Illness began as acute purulent otitis media; pneumococci

were found in abundance in discharge from the ear and in smears from the throat. In a few days dulness developed at the base of the right lung posteriorly, over which fine râles and bronchial breathing were heard, while breathing was rapid and laboured. A diagnosis of encysted empyema was made, with a surrounding area of pneumonia. Repeated punctures failed to locate pus. The leucocyte count was 28,000, with 81 per cent. of polynuclear neutrophiles. Streptococci and pneumococci were found in the aural discharge and bronchial mucus; streptococci were also found in the blood. An X ray showed a deep shadow over the right base posteriorly. The child recovered, and now shows a normal chest.

Dr. J. P. Crozer Griffith said that he did not know what was the matter with the child at the time he saw it and did not think he knew yet. All physicians are accustomed to see irregular temperatures in children, running for quite a long period, due to causes not discoverable; but they do not present a chart like this—the most remarkable that he had ever seen. He still felt, as he had felt when he saw the child, that the case was one of empyema, though small, and maybe a spastic pleurisy, which the history rather indicated. From other experience Dr. Griffith was convinced that when symptoms of empyema are present, one may do a good many punctures without getting any pus until one happens to strike a single small spot. He remembered a case in which a puncture was made and a very small amount of pus obtained. The case was then turned over to the surgeons, who put in a large needle and found nothing. He concluded that a small pleuritic effusion is capable of causing a good deal of constitutional disturbance. He thought that in this case there was probably a septic infection coming from a very small area, the consolidation not depending on the fluid and not being of a fluid nature. Dr. Griffith had seen the child on two occasions and had heard about it many times. It maintained a remarkable degree of resisting power, never seeming to be in the profoundly septic state that one would expect with such a temperature.

Dr. Alfred Hand, jun., said that the remark made some years ago still holds good—that we do not know all about infections. He thought he had understood Dr. Jones to say that streptococci had been found in the blood. He had been unfortunate in not being able to find them in similar cases. He had had cultures made, but had not discovered the germs causing the disease. In a similar case recently seen he punctured the right base, with negative result, which he explained on the ground of the physical sign met with so often in children—a lack of expansion of the base of the right lung, probably due to the presence of the liver in that neighbourhood. Children breathe more with the left than with the right lung. The origin of these cases is often a mystery. Sometimes there will be a focal symptom that will explain the origin—suppuration connected with some of the air-sinuses in the head. In one case he never found a focus. The child would have a normal temperature most of the day, and at 9 p.m. it would rise to 103° F., coming down about midnight or 3 a.m. The case went on for twelve weeks, when the child suddenly developed convulsions and died, and the autopsy did not explain the cause of death. Dr. Hand thought that this case was about as much a mystery as Dr. Jones's.

Dr. Rugh said that this case recalled one of which he had had charge for over a year. Anyone who meets with a case of infection in sinuses or other portions of the body in which metastatic conditions develop will realise one thing very forcibly—that is, the extreme virulency of the ordinary staphylococcus. Dr. Rugh's case had been seen by Dr. Hand over a year ago. It was

first treated as typhoid, and Dr. Rugh was not sure that it was not typhoid, the history of acute osteomyelitis being mistaken for typhoid fever being so common. The child had osteomyelitis of the femur on one side. After a few months he developed pulmonary symptoms, and Dr. Hand, who saw him then, said that he had pleurisy with effusion. Dr. Rugh saw the patient some months later, and recognised the extensive osteomyelitis and the empyema. He tapped and found a large quantity of pus, which contained staphylococci. Several operations were done and this finally healed. Then the patient developed an abscess at the head of the left humerus, which was opened, and small pieces of bone were discharged. He next developed a spot on the back of the left ankle, and pus was discharged from this. Dr. Rugh opened an abscess at the lower end of the left radius yesterday, and some weeks ago one at the posterior axillary fold, out of which small pieces of bone were discharged. Eight or ten inches of dead bone from the right femur have also been removed, and the boy is now recovering. Dr. Rugh concluded that one never knows when a case of staphylococcus infection is healed or how widespread may be the metastasis.

Dr. D. J. Milton Miller said that other conditions will give a temperature chart like that exhibited by Dr. Jones, and referred to a case of septic endocarditis which had a similar temperature chart. In regard to puncture of the chest and the inability to find pus when the physical signs indicate its presence, Dr. Miller said that he had seen a case with Dr. Harry Deaver, that of a young girl who had developed chest symptoms after appendicitis. Dr. Deaver punctured the chest fifteen times, and the last time got pus.

Dr. Jones commented on the paucity of references in the text-books to these irregular temperatures in children, none of them containing any real comment concerning the condition. It is so common to find children running temperatures that one cannot account for, and getting well without their having been accounted for, that the authors of text-books are not doing their full duty when they neglect to tell their readers something more about this subject.

Dr. Miller added that one cause of such temperatures is just coming into notice now, viz. genito-urinary infection. He had seen a child over and over again since last fall, and had only recently discovered that the trouble was in the genito-urinary tract. For financial reasons he did not see this child very often during the winter. Its temperature would rise for a day or two and then it would apparently get well, and then the same thing would happen again. This had been going on since last January. A few days ago Dr. Miller examined a specimen of the urine, and found that the trouble was pyelitis. It is getting well now under the use of urotropin.

Mitral Disease and Adherent Pericardium.—Dr. A. E. Simonis (by invitation) exhibited the heart of a girl, aged 6 years, whose mother had died of cardiac disease. She had had frequent attacks of follicular tonsillitis. Autopsy showed adherent pericardium and a large vegetation, cylindrical in shape, half filling the left auricle and ventricle, attached to the papillary muscle in the ventricle.

Personal Observations on the Treatment of Ileo-colitis.—Dr. D. J. Milton Miller said that the difficulty of classifying infantile diarrhœas from symptomatology alone was recognised. Yet there is a well-defined form of summer diarrhœa, usually denominated ileo-colitis, as the lesions have their seat in the ileum or colon, or both. The treatment comprises:

First, efficient purgation with castor-oil or magnesium sulphate. Calomel, because of its irritant properties, should never be used. No opium or bismuth must be given during this period. Second, absolute abstention from all food except water for twenty-four hours. Third, cereal gruels, two ounces only, every four hours, alternating with a mild stimulant food, such as panopeptone or weak sherry and water. This may be flavoured with one drachm of beef-juice, alone or in two ounces of water. Small amounts of food are less apt to provoke peristalsis than are larger ones. After three or four days whey is added in half-ounce quantities daily, until one half of the mixture is whey. Then whole or skimmed milk, one drachm daily, is added, until a half ounce is given; then a half ounce every second, third, or fourth day. If this disagrees, condensed, malted, or butter-milk is tried, or peptonised milk. The early resumption of whey and milk is carried out as long as the temperature is not over 103° F., whether stools are numerous or not, provided these two features are not materially affected by the addition. The early use of milk maintains nutrition and recovery is hastened; fat is not well borne, hence whole milk is preferable to cream. As relapses are easily provoked, especially in older infants, great care with diet is necessary for a long time. The most valuable drug is castor oil, lessening tenesmus and mucus, and curtailing the attack. Epsom salts may be substituted. Bismuth is only of value when it blackens the stools. Opium is only necessary when pain is excessive, while morphine is valuable hypodermically when symptoms assume a choleraic type. Cocaine suppositories are of use for tenesmus. Dr. Miller only employs irrigations when there are five to eight mucous stools daily, never when stools are numerous or with much tenesmus. Irrigations with argentic nitrate are of value in prolonged cases with much mucus. Fresh air, warm daily baths, warm abdominal applications, are valuable adjuncts to the treatment. Special symptoms are to be treated according to accepted methods.

Dr. Hand said that many doctors failed to stop milk absolutely, although they thought they had done so. They have, however, kept on with whey or some milk food which furnished culture medium for the germs. Dr. Hand agreed with Dr. Miller that castor oil was probably the best purgative in these cases, although he had been using magnesium sulphate with as good, if not a better result. The investigations of Abt, of Chicago, show the value of the latter.

Dr. Rugh remarked that his father, an old country doctor, who has been practising for fifty-nine years, has been very successful in treating this class of cases. His favourite method of treatment is to give sulphate of soda (Glauber's salts, five grains to the dose, in solution) with a little sulphuric acid for a number of days. He is not a specialist, but he has obtained excellent results in the treatment of the summer diarrhœas and ileo-colitis of children. He follows this method of treatment until he notices certain changes in the discharges, and then uses a preparation of thymol.

Dr. W. N. Bradley said that he had had two or three cases in which he had given bismuth in large doses, and found that it came through unchanged. He considered this to be probably due to the absence of certain gases in the digestive tract. At first he was sure that the child was passing curds of milk. As he had stopped the milk, he examined the mass and found it to be unchanged bismuth. In such cases the bismuth, of course, has done no good.

Dr. Jones stated that she gives castor oil in such cases, and that her indication for a repetition of the dose is the foul odour of the stools. She gives very little bismuth. With the use of castor oil and careful feeding,

stopping all milk and usually giving cereals, she finds that she can get her cases well more easily than by the old method of giving astringents. As the cases approach convalescence she endeavours to secure a little mother's milk. The children in such cases are, of course, usually bottle-fed; but if they can get an ounce or two of mother's milk a day, this will help towards a speedy convalescence. In the early stages Dr. Jones employs copious irrigation with chamomile tea, which she considers to be even a better irrigant than salines. She repeats this procedure during the first days of the illness, and stops it after she feels that the residual matter is all washed out.

Dr. Harry Lowenburg said that he had employed the Murphy treatment in two cases last summer. They suffered from marked toxæmia, as evidenced by extreme nervousness, irritability, delirium in an older child, and suppression of urine. Both cases were markedly benefitted, and in one the procedure seemed to be life-saving. He asked Dr. Miller whether he had had any experience with this treatment in these cases. Dr. Lowenburg was surprised to hear Dr. Miller recommend the use of pasteurised milk, and wished to know why he preferred to use pasteurised milk when the best certified milk was obtainable.

Dr. Miller answered that Dr. Jones's suggestion in regard to mother's milk was excellent, but that the trouble was that this can rarely be obtained. In regard to the resemblance between unchanged bismuth and milk-curds referred to by Dr. Bradley, Dr. Miller said that he was glad this had been mentioned, and that he would insert this in his paper before sending it to the printer. He had known of this resemblance for a long time, and used to be deceived by it. Often he has been at a loss to know where the child had got the milk to produce curds, as he had told the parents to stop the milk. He has even accused them of not straining the whey properly. In some of these cases one may give bismuth for many weeks without its having the slightest effect upon the stools. As soon as the stools get black, the bismuth acts as an astringent; but Dr. Miller considered the reason of this to be that the bowels are regaining their natural condition. Dr. Miller said that he never uses the colonic Murphy treatment in these cases. He had, however, seen recently a case of pneumonia with extreme tympany, so great that it was killing the baby. All methods were tried without any result until the Murphy treatment was employed by the physician in attendance. Irrigations of this were given for two hours, and the tympany subsided entirely, the abdomen collapsing completely. The only reason that Dr. Miller had advised pasteurised milk was that he thought it should be employed merely as an extra precaution. He was inclined to think that summer diarrhœas have increased somewhat, because of the fact that no one uses pasteurised milk any more. His experience for many years has, of course, been largely at the sea-shore, his patients being, therefore, under the most favourable conditions. They do, however, acquire very severe types of this disease. He mentioned having seen recently in consultation a most severe case of ileo-colitis of five weeks' duration, in which the child of two years was still having twelve to fourteen putrid stools a day, with extreme emaciation. This case developed at the sea-shore; hence Dr. Miller was inclined to use pasteurised milk as an additional safeguard.

Nephritis following Varicella.—Dr. E. J. G. Beardsley (by invitation) reported two cases of nephritis occurring during and after attacks of chicken-pox. One was in an Italian girl, aged 6 years, the other in a negro boy, aged 5 years. Albumin and casts were found in both cases in the urine.

Dr. Bradley said that Dr. Beardsley's reference to the lesions of chicken-pox becoming hæmorrhagic recalled to his mind a case seen at the Children's Hospital two weeks ago, in which all the lesions were hæmorrhagic. The child was intensely ill, and died on the fourth day. This case was seen by several physicians, who all agreed that it was varicella.

Provincial Societies.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

May the 4th, 1910.

Dr. Byrom Bramwell *in the Chair.*

A Case of Tuberose Sclerosis.—Dr. J. S. Fowler described a case of tuberose sclerosis, which had been recently seen by him, in a child aged 1 year. The parents were quite healthy, and the child had been normal in physical and mental development until the onset of the fatal illness, when epileptic fits occurred in rapid sequence. The condition on the child's admission to the hospital closely simulated tuberculous meningitis. On lumbar puncture the cerebro-spinal fluid was peculiar in the flaky coagulum that developed some time after withdrawal. Empyema supervened, and the child died. The author said that on analysis of the twenty-six cases of this condition recorded in its literature, he found eight were male and eighteen female. Most of these were in children, although in one case the condition was found post-mortem at the age of thirty-seven. Clinically they were characterised by mental dulness, followed by epileptic attacks occurring in series. Multiple renal tumours described as adeno-sarcomata were found in seventeen out of the twenty-six. Heart tumours occurred in four cases, but here account must be taken of the congenital heart tumours that produced death before the brain lesions had developed. Adenoma sebaceum occurred in a large proportion of the cases—seventeen out of twenty-six. This last was an important feature, and might be of value in diagnosis.

Dr. Carnegie Dickson described the results of the post-mortem examination which he had made. The conditions found were tuberose sclerosis—multiple hard tumours in the cerebral cortex and projecting into ventricles. There was a rhabdo-myoma of the heart. He showed lantern-slides illustrating the histological structure of these brain and cardiac tumours.

Dr. John Thomson recalled a case of adenoma sebaceum where there was no mental defect.

Dr. Norman Walker also cited a case of a similar condition where the mental condition was average, and the patient when last heard of was alive and well at the age of twenty-two years.

Dr. Fowler, in reply, said that adenoma sebaceum would only be of diagnostic value if accompanied by mental defect and epileptic fits.

OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM.

May the 5th, 1910.

Dr. G. Berry, *President, in the Chair.*

Congenital Word-Blindness.—Mr. Herbert Fisher, in a paper on inability to learn to read, reported four cases which had come under his own observation in one girl and three boys. In one of the male cases there appeared to be very suggestive evidence of a hereditary and family tendency to the defect, in another there had been considerable flattening of the left side of the cranium at birth, and a remnant of this deformity could still be easily recognised. The author thought it probable that as further examples of the defect were collected, the cases would be found to range themselves into two groups: (*a*) The hereditary group, in which the visual memory centre for words residing in the left angular gyrus failed in development; probably in this group a considerable portion of the female cases would be found. (*b*) A group due to limited meningeal hæmorrhage over the same gyrus, the result of birth injury. This group would account for the well-recognised great preponderance of congenital word-blindness in the male sex, due to the greater size of the head in male than in female infants at birth. He pointed out that larger meningeal hæmorrhages at the time of parturition, resulting in birth palsies, were twice as common in male as in female children. He urged the necessity for special and private tuition for children with this defect of congenital word-blindness, and he thought the phonic method of learning to read, making use of the glosso-kinæsthetic centre to aid the visual memory centre, less likely to lead to a satisfactory result than endeavours to train a vicarious visual memory centre in the right hemisphere. For such training he advocated the "look and say" method of learning to read: the child should use the "word" as its unit of observation and study and not the individual letters. The "look and say" system had been practically developed by Miss Mason, of 56, Romola Road, Herne Hill, S.E., in her "Delightful Reading Box" system, which the speaker had had used with most satisfactory results in one of the cases reported to the meeting.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

Section of Surgery.

April the 22nd, 1910.

Mr. J. Lentaigne, P.R.C.S.I., *President, in the Chair.*

Nephrectomy for Tuberculous Kidney.—Mr. R. Atkinson Stoney read an account of two recent cases of nephrectomy.

The second case was one of a girl who had been passing blood and

tubercle bacilli in the urine for over six months. The urine was segregated by Luy's segregator on two occasions, and both times the urine from the right side was normal; that from the left contained blood, pus, and tubercle bacilli. At the operation the kidney was found to contain a small cavity (about one drachm of capacity) in the upper half, representing the base of one of the pyramids. Under the microscope the walls of this cavity showed general round-celled infiltration and masses of red cells, but no definite tubercles. No blood, pus, or tubercle bacilli could be found after the operation, though several examinations of the urine were made. The author commented on the curious discrepancy between the symptoms and pathological findings in the two cases.

Mr. Seton Pringle thought the cystoscope was a great advance on the segregator in dealing with such cases. In ligaturing the ureter and vessels he had had trouble with silk, as it cut through and came out subsequently.

Dr. Stokes had had trouble in using the segregator, the methylene-blue which he injected returning down the other side.

Mr. C. A. Ball said he had found the segregator very useful in some cases, but if one used a cystoscope the segregator would rarely be required.

Mr. Stoney, in reply, said he considered catgut the best material in these cases. In respect of the segregator, the mistake in the use of it lay in the position of the patient. If the patient was put sitting up in a gynæcological chair, so that the legs were nearly at right angles with the body, there was no possibility of urine passing from one side to the other unless the bladder became over-distended. In most cases where there were symptoms of extensive injury he thought the sooner operation was done the better. In a young patient severe hæmaturia which was not affected or relieved by continued rest was almost pathognomonic of tubercle. The results which he had obtained with tuberculin had not been satisfactory; there seemed to be a great tendency to recurrence.

Abstracts from Current Literature.

Medicine.

Blood-pressure in diphtheria (*'Deuts. med. Wochens.,'* 1909, *p.* 1926). —**M. Brückner** in the last two years has examined about 200 cases of diphtheria in the Dresden Children's Hospital with Gärtner's tonometer. At the beginning of the disease he found either a rise with subsequent fall or a subnormal pressure from the first. Subsequently the blood-pressure behaved in various ways. Horizontal readings were found in uncomplicated cases and in those with slight cardiac disturbances. In fatal cases the blood-pressure showed a steadily downward course. Kolossova had stated that a fall of blood-pressure was a constant premonitory symptom of diphtheritic paralysis, but Brückner could not confirm this. Brückner concludes that sphygmomanometry is not indispensable in diphtheria, since it is less valuable than examination of the heart, liver, and urine, and attention to the patient's colour and general condition. He thus differs from other observers, especially Friedmann, but is in harmony with Weigert, whose conclusions were based on the examination of 46 cases. J. D. Rolleston.

Accidental vaccination (*'Pediatrics,'* 1909, *p.* 435).—**I. M. Heller** records two cases: (1) Boy, aged 14 months, admitted with left eye closed. The lids were swollen, reddish-grey in colour, and glued together by discharge. A smaller ulcer surrounded by pustules was found just below the lower lid margin. The conjunctiva was injected, but the cornea was not involved. The child had probably been infected by his sister, who had been vaccinated sixteen days previously. Nothing was done beyond keeping the eye clean. In twelve days the scab dropped off. A few weeks later the child was vaccinated on the arm, but with no result. (2) Boy, aged 6 years, vaccinated five days previously, showed a vesiculo-pustular lesion on the left arm and lesions in the same stage on the right ala nasi and right side of the nasal septum. The nasal inoculation was due to his having scratched his arm with contaminated fingers at the time of vaccination.

J. D. Rolleston.

Infectious disease and lactation (*'Gaz. des Hôp.,'* 1909, *p.* 1557).—**Brelet** thinks that in mild infections of short duration lactation may be continued. Roger found that only two out of a hundred sucklings caught their mothers' disease—in one case measles, in the other erysipelas. In mild smallpox if the child has been vaccinated there is no objection to lactation, but in severe forms the secretion is too much affected for lactation to be possible. Women suffering from mumps may continue to suckle, but the possibility of metastatic mastitis must be remembered. In diphtheria the nursling should be given a prophylactic dose of antitoxin. Except in very severe scarlatina, where the constitutional disturbance is as great as in typhoid, suckling may be continued (*v.* British Journal of Children's Diseases, 1907, p. 73). In every case care should be taken to reduce to a minimum the risk of contagion. The child should only be with the mother while taking the breast. All authorities are agreed that lactation should be discontinued during typhoid fever, for though the secretion may persist and typhoid bacilli are not present in the milk, suckling will prove too exhausting to the mother. It may be resumed, however, in convalescence if the disease has not been too long or too severe.

J. D. Rolleston.

The 1908 epidemic of acute poliomyelitis in Vienna and Lower Austria (*'Wien. med. Wochens.,'* *No.* 46, 1909, *p.* 2683).—**J. Zappert.**—This paper, which contains the results of a collective investigation of the Pediatric Section of the Vienna Gesellschaft für innere Medizin und Kinderheilkunde, is based on 266 cases, 137 of which occurred in Lower Austria and 129 in Vienna. The epidemic began in July, 1908, reached its height in September and October, and sank rapidly in January and February, 1909, but had not completely terminated by the following September. Most cases occurred during the second and third years of life. A large number of older children were affected but very few adults. The morbidity was higher among boys than girls. The dissemination of the disease did not appear to depend upon poverty or density of population. The cases are discussed according to the classification proposed by Wickman. The great majority belonged to the purely spinal form: 241 out of the 266 cases showed marked spinal symptoms. In most cases the legs were paralysed. An ascending or descending form resembling Landry's paralysis occurred in 14 cases. Older children and adults were chiefly affected. Many instances of the bulbar and pontine form were met with. Affection of the cerebral nerves manifested by ocular and facial palsy and difficulty in swallowing

was noted in 25 cases, and was associated with paralysis of the extremities. As a rule the bulbar and pontine symptoms disappeared entirely. Only a few cases of Strümpell's encephalitic form were seen. Zappert thinks there is no justification for creating separate classes for ataxic and polyneuritic forms. It was impossible to state the frequency of the meningitic and abortive varieties because the physicians in attendance were not familiar with the existence of these forms, but many cases were recorded in this epidemic of the occurrence of meningeal and indefinite febrile conditions. Twenty-six of the cases died, a mortality of 10·83 per cent. Some of the fatal cases showed signs of Landry's paralysis and other severe meningeal symptoms, while a few succumbed to intestinal catarrh and pneumonia. Complete recovery took place in 37 cases, or 13·8 per cent. This figure is only approximative, since it does not take into account the abortive forms nor those in which recovery might occur later. In the epidemiological part of the paper it is shown that both in Vienna and in the provinces the cases were very unequally distributed. There was often an accumulation of cases within certain districts or among groups of houses. In eight cases, two instances of which occurred in Vienna, children of the same family were affected. Zappert concludes that poliomyelitis may be regarded as an endemic infectious disease which has suddenly assumed the proportions of a severe epidemic; its behaviour thus resembles that of cerebro-spinal meningitis.

J. D. Rolleston.

Congenital cyst of liver (*'Arch. of Pediat.,'* xxvi, 1909, *p.* 818).—**H. L. K. Shaw** and **A. W. Elting**.—Eighty-five cases of non-parasitic cysts of the liver were collected from literature by Moschowitz in 1906, to which the writers have added three more. Of the eighty-eight, two occurred in the fœtus, seven in the newborn, four in the first year, one at eleven years, and the remainder in adults. The present case was in a girl, in whom enlargement of the liver was first noted when she was twelve months old. When seen by Shaw five months later the abdomen was greatly distended, but the superficial veins were not enlarged. There was no jaundice. The liver dulness extended from the upper border of the fifth rib to the right iliac fossa. The edge was sharp. Palpation and percussion caused no pain, An exploratory operation was made by Elting, who found the lower part of the right lobe of the liver occupied by a globular tumour which extended to the umbilicus: 900 c.c. of clear yellow fluid were withdrawn, which was found to contain a moderate amount of albumin, but no formed elements. Death without obvious cause took place two hours after the operation. No other malformation nor abnormalities in the organs were present. Microscopical examination showed considerable increase of fibrous tissue throughout the liver in the portal spaces.

J. D. Rolleston.

"Casein masses" in infant stools (*'Arch. of Pediat.,'* xxvi, 1909, *p.* 773).—**L. F. Meyer** and **J. S. Leopold** summarise their observations as follows: (1) The so-called "casein masses" cannot be considered unaltered casein. (2) The nitrogen of the fæces and the nitrogen of the food bear no intimate relation to one another. (3) The appearance of "casein masses" and even an increased amount of nitrogen in the stools do not point to a disturbance in proteid digestion.

J. D. Rolleston.

Gastric capacity of infants (*'Arch. of Pediat.,'* xxvi, 1909, *p.* 760).—**H. O. Mosenthal** thinks that the gastric capacity of infants as measured

during life or after death is a false guide as to the quantity to be given at each feed. The quantity of each feed may exceed the measured gastric capacity by a considerable margin. The interval between the feeds should never be less than two and a half hours for breast-fed children, and three hours for bottle-fed. Symptoms of overfeeding are in most cases due to too short intervals between the nursings, to improper dilution of milk, and especially to excessive fats. J. D. Rolleston.

Hæmorrhagic varicella (*'Cleveland Med. Journ.,'* ix, 1910, *p.* 37).—**R. W. Elliott.**—A boy, aged 4 years, on the fifth day of a moderately severe attack of varicella, complained of stomach-ache and vomited clotted blood. Numerous petechiæ and ecchymoses were found scattered over the scalp, trunk, and limbs, and similar lesions were found in the tongue and tonsils. The urine contained blood which was probably of vesical origin. Blood was also present in the stools. The case was complicated by the boy, three days after the appearance of the hæmorrhages, swallowing a piece of gum, for which tracheotomy was performed. Death took place suddenly two days later. No autopsy. The literature is reviewed, and the cases of J. D. Rolleston and Porter are mentioned (*vide* British Journal of Children's Diseases, 1906, *p.* 21, and 1907, *p.* 312). J. D. Rolleston.

Pediatric work in Austria and Germany (*'Arch. of Pediat.,'* xxvii, 1910, *p.* 40).—**J. S. Leopold** gives a short account of the clinics of Escherich, Hamburger, Knöpfelmacher, and Lorenz at Vienna, of Czerny at Breslau, of Heubner, Baginsky, and Finkelstein at Berlin, and of Pfaundler at Mümich. J. D. Rolleston.

Sarcoma of kidney (*'Pediatrics,'* xxii, 1910, *p.* 42).—**E. J. Wynkoop** records a case in a girl, aged 2 years and 3 months, who died after an illness of about three weeks' duration. The urine contained a trace of albumin, with hyaline and granular casts. The autopsy showed a lympho-sarcoma of the right kidney, with metastases in both ovaries, cranial dura, and vertebral and orbital periosteum. J. D. Rolleston.

Pneumococcic infection (*'Arch. of Pediat.,'* xxvii, 1910, *p.* 1).—**W. L. Carr** reviews the literature and records a case in a child, aged 1 year, admitted to hospital with acute conjunctivitis shortly after recovery from pneumonia. Pneumococci and staphylococci were found in smears taken from the eyes. The child had scorbutic symptoms, but there were changes in the ankle-joints independent of scurvy, and these were regarded as due to pneumococcic infection. All tuberculin tests were negative. Two months later meningitis developed. Lumbar puncture showed pneumococci. Death occurred nine days after the onset. J. D. Rolleston.

The dwarf tape-worm (*'Arch. of Pediat.,'* xxvii, 1910, *p.* 100).—**O. M. Schloss,** in the routine examination of 230 children of the poorer class in New York City between two and twelve years of age, found the ova of *Hymenolepis nana* in fourteen. Eight of these showed gastro-intestinal or nervous symptoms. Eosinophilia was present in seven of the eight cases, but was uniformly absent in those who had no symptoms. Infection possibly arises from contamination of food with the fæces of infected rats or mice. Treatment with male fern is effective, but may require repetition.
J. D. Rolleston.

Unusual persistence in secretion of colostrum (*'Arch. of Pediat.,'* xxvii, 1910, *p.* 32).—**H. M. Steele.**—A female child, healthy at birth, lost seventeen ounces in the first fourteen days of life, though she was nursed regularly and had no vomiting nor regurgitation. The stools were green and contained an excess of mucus mixed with both fat and proteid curds. Seborrhœic eczema was present on the face and chest. The mother's milk was abundant and of a rich yellow colour. Microscopical examination showed that the vast majority of corpuscles were colostrum bodies. A similar finding was made in a specimen taken thirty-two days after birth. The child was weaned and gained four pounds twelve ounces in nine weeks.

J. D. Rolleston.

Death due to status lymphaticus (*'Pediatrics,'* xxii, 1910, *p.* 178).—**P. L. Parrish.**—A girl, aged 25 days, was admitted to hospital for purulent conjunctivitis. She had no digestive disturbance, and was ready for discharge when sudden death occurred three weeks after admission. The autopsy showed a large thymus weighing slightly over nineteen grammes. There was no evidence of any pressure on the trachea. All the other organs were normal, and there was no glandular enlargement.

J. D. Rolleston.

Aberrant vaccinia (*'Zentralbl. f. Gynäk.,'* 1910, *p.* 81).—**Weisswange** records a case of vaccinia of the vulva, groin, and perinæum in a woman suffering from leucorrhœa. The irritation of the discharge had caused her to scratch herself directly after dressing the arm of her recently vaccinated child (*cf.* British Journal of Children's Diseases, 1909, *p.* 377).

J. D. Rolleston.

Herpes zoster in children (contribution à l'étude du zona chez l'enfant) (*'Thèses de Paris,'* 1909–10, *No.* 84).—**Galka.**—This thesis contains the histories of ten cases, four of which are original, in children whose ages ranged from four days to twelve years. In two of Galka's cases lumbar puncture was performed, but in neither was any cellular reaction found. Up to the age of two years herpes zoster is very rare. It is commoner in boys than in girls. It is more frequently accompanied with fever than in adults. Initial digestive disturbances often occur. Intercostal zona is most frequent, lumbo-abdominal and cervico-brachial lupus come next, while ophthalmic herpes is very rare in children. The disease is milder and of shorter duration than in adults. Sensory troubles, such as hyperæsthesia, anæsthesia, and neuralgia, do not occur. The only sequelæ recorded are repeated epistaxis, urticaria, and adenitis. J. D. Rolleston.

Ulcero-membranous meningococcic pharyngitis (*'Berlin klin. Wochens.,'* 1909, *p.* 1360).—**F. Reiche.**—A girl, aged 12 years, was admitted to hospital in June, 1907, as a case of diphtheria. Soft deposit covered the tonsils, pillars, and uvula. The appearance of the throat, however, more closely resembled that presented by corrosive poisoning than diphtheria. The patient was comatose, and vertebral and nuchal rigidity, together with Kernig's sign, was present. Lumbar puncture gave issue to a turbid fluid under hypertension containing meningococci. Throat cultures showed meningococci mixed with staphylo- and streptococci, but no diphtheria bacilli. Death took place two days after admission. Reiche insists on the importance of recognising this form of sore throat, cases of which

were described by McKenzie and Martin in the Glasgow epidemic, so that serum treatment may be at once adopted. J. D. Rolleston.

Researches on the diarrhœa of infants (*'Gaz. Med. de Paris,' January* 1, 1910, *p.* 5).—**E. Metchnikoff** has studied the intestinal flora in acute gastro-enteritis of infants, which he finds much less complex than in adults. This flora, which plays an important part in the physiological phenomena of nutrition, has a serious bearing not only in affections of the digestive track, but also in disturbances of nutritive metabolism, and in diseases of the nervous system, skin, and kidneys. Experiments which resulted in causing diarrhœa in young rabbits at the breast by administering portions of the stools of infants suffering from acute gastro-enteritis, prove that this latter is an infectious malady. Experiments on chimpanzees gave analogous results, the influence of food and high temperature being excluded. The author at first thought that the infective agent was to be found in paratyphoid bacilli, but soon became struck with the constant abundance of *Bacillus proteus*, occurring in thirty cases out of forty. It developed readily on gelatin. The experiments were then repeated by administering to the rabbits and chimpanzees pure cultures of *proteus*: the resulting infection, instead of showing itself as diarrhœa, took the form of a fatal dry cholera. Assuming that *proteus* plays an important part in infantile diarrhœa, a search for the source of the infection disclosed the fact that it was rarely met with in cow's milk. On the other hand, house dust and fæcal matter from a number of animals contained it, and it is found on the outer layer of most food-stuffs, including cheese, grapes, and salad. The author concludes that the micro-organism is transported by flies from the dejecta of animals to the articles of diet which are consumed raw, and thus introduced into the digestive track of persons who eat them. Prolonged contact of these persons with nurslings is sufficient to contaminate them with the microbe, which, though well tolerated by adults, provokes diarrhœa in infants. Hence the means taken with regard to milk by sterilisation, etc., are not sufficient, but attention must be directed to keeping the hands clean, washing certain food-stuffs, purifying the streets, and destroying flies.

Vincent Dickinson.

Culture of the parasite of infantile paralysis (*'La Clin. Infant.,' February* 15, 1910, *No.* 4, *p.* 104).—**C. Levaditi,** in the course of his experiments, noticed the presence of a large number of rounded or slightly oval corpuscles, often in pairs or in masses, and brilliantly coloured red. They were extremely small and presented a faint polymorphism. They were not stained well with anilines. Fuchsin, however, in prolonged application stained them pale pink. With Giemsa small red or oval points stained faintly blue were noticed. Vincent Dickinson.

The gastric digestion of fats in nurslings (*'La Pediat.,' January,* 1910, *No.* 1, *p.* 1).—**G. Finizio,** from a series of investigations carried out by him, finds that glycerine extracts of the gastric mucous membrane prepared from the dead bodies of nurslings have a marked lipolytic action on the fats of yolk of egg, human milk and cow's milk, dissolving 22 to 37 per cent. of the fat. In healthy infants an hour after a feed with human or cow's milk, in the gastric contents drawn off the fats were separated to the extent of 5 to 6 per cent. Two or three hours after a feed the separation of fat was represented by a somewhat higher figure, but not above 10 per cent.

The separation of fat in cow's milk did not vary, whether it was raw or sterilised. In children ill with digestive maladies, in the stomach contents either extracted or ejected spontaneously by vomiting, in general the fats were separated in a larger proportion than in healthy infants. In several cases of gastric dyspepsia with habitual vomiting, and in one case of acute gastro-enteritis, also accompanied by vomiting, a marked proportion of separated fats was found. VINCENT DICKINSON.

A case of acute circumscribed œdema (*'La Clin. Infant.,' February* 15, 1910, *No.* 4, *p.* 106).—**P. Lereboullet** and **Faure-Beaulieu** described the case of a boy, aged 15 years, who for three months was the subject of a morbid condition characterised by successive and sometimes overlapping attacks of localised œdema, ephemeral and painless, involving the subcutaneous cellular tissue of the scrotum and the skin of the trunk and limbs. There was temporary albuminuria, due, perhaps, to renal œdema, no cardiac lesion, a marked neurotic history, both hereditary and personal, concomitant gastro-intestinal organs. The symptom-complex corresponded to Quincke's disease. VINCENT DICKINSON.

The buccal mucous membrane as port of entry of tuberculosis (*'La Pediat.,' December*, 1909, *No.* 12, *p.* 881).—**E. Giliberti,** from experiments made by him, concludes: (1) That the buccal mucous membrane can give passage when unaltered structurally to Koch's bacillus. (2) That this method of infection, at least in childhood, is much more frequent than is generally supposed. (3) That the prophylactic measures to be adopted against the propagation of tuberculosis in infancy must be specially directed to preventing contagion through the mouth according to precepts suggested by Marfan in the Congress of Paris of 1905. VINCENT DICKINSON.

The sepsis of the cerebro-spinal fluid in relation to the various nervous diseases of children (*'La Pediat.,' February and March*, 1910, *pp.* 134 *and* 180).—**P. Sorgente** contributes an extensive paper on this subject, with numerous cases and a useful bibliography on the cytology of the cerebro-spinal fluid. From his observations he concludes that there frequently exists in children a condition of sepsis of the cerebro-spinal fluid, both in connection with definite diseases of the nervous system and in relation to morbid syndromata which do not fit in with any well-known pathological condition. In the cerebro-spinal fluid procured by lumbar puncture, especially in cases of indefinite nervous symptoms, micro-organisms are often found unaccompanied by leucocytes. The micro-organisms are at times numerous, and are met with on microscopic examination of the cerebro-spinal fluid, whether centrifugalised or not; at other times they are scarce and require cultivating for adequate investigation, especially on solid media (agar, simple or glycerinated, or blood-agar, etc.). It is evident that an ætiological and pathological importance must be attributed to this bacteriological discovery which cannot be purely accidental. In all the cases of nervous disease investigated by the author, whether of definite clinical type or indefinite, the happiest results followed lumbar puncture. VINCENT DICKINSON.

Neuroses of the sympathetic system during measles (*'Gaz. deg. Osp.,' October* 26, 1909).—**Licciardi** describes a recent epidemic of measles at Catania, which affected both young and old. In several instances the disease

occurred for the third time. Bronchitis and pneumonia were frequent complications, as also was gastro-intestinal catarrh, which sometimes simulated typhoid and was accompanied by signs of meningeal irritation. In several cases he met with a neurosis of the sympathetic system, of which the following are instances. A child about two years of age, during the eruptive stage, developed spasm of the larynx. The vocal cords appeared to contract slowly, closing the glottis completely, until the accumulation of CO_2 in the blood stimulated the respiratory centre and induced a deep inspiration. The spasm then subsided for an instant. Mustard to the chest, and bromides, cannabis indica, and belladonna internally brought about a relaxation of the spasm in a few hours. It returned, however, two days later, when it yielded as before to the same measures. Another child had attacks of typical asthma for the first time, nothing of the kind being known in the family. In a third the spasm affected the intestines. The severe pain was not accompanied by any objective signs, but continued until relieved by the same measures.

T. R. Whipham.

Recurrent vomiting with acetonuria (*'Journ. Amer. Med. Assoc.,' December* 18, 1909).—**Burrage** saw two cases in a brother and sister, whose parents were distinctly neurotic. The boy, aged 7 years, was breast-fed during the first six weeks of life, but with poor success, and subsequent attempts to find a suitable milk diet were in vain. He constantly vomited, and was subject to colic and indigestion. The attacks of vomiting apparently continued at intervals, but it was not until the fifth year that acetone and diacetic acid were demonstrated in the urine and a correct diagnosis established. Since then he had been seen in ten attacks, though he had had many others, and at these times acetone had always been detected in the breath and in the urine. The attacks recurred in from five weeks to five months, and lasted four or five days, being attended with marked emaciation and prostration. In one of the latter there was considerable hæmatemesis. As the boy grows older the attacks are becoming less frequent, and should cease within a year or so. The girl was nearly four years old, and like her brother, was small, thin, and neurotic. She was nursed for nine months, with occasional feedings of cow's milk. She suffered less from vomiting and indigestion than her brother, but when put on cow's milk entirely it was found that her capacity for fat was very limited. At about eighteen months she had her first attack of severe vomiting, which was accompanied by acetonuria. Since then she had had four recurrences, with prostration and emaciation, the presence of acetone and diacetic acid being demonstrated each time.

T. R. Whipham.

The sterilisation of infants' clothing (*'Lyon Méd.,' September* 2, 1909).—**Weill** finds that the steam laundry is insufficient for the proper sterilisation of infants' clothing. They are apt to pick up germs during the transit from the laundry to the infants. From a nurse's apron fresh from a steam laundry in the building, streptococci, staphylococci, diplococci, etc., were cultivated. The writer now insists on having the infants' clothing sterilised by steam under pressure for twenty minutes; they are then sorted according to their nature and placed in sterilised bags until required. A separate bag is used to hold the gauze sponge used in washing the child. The nurses are trained never to let their hands come in contact with those parts of the linen that come next to the child's skin. The children are washed with the gauze sponge taken from the bag, dipped into boiled water

and lubricated with sterilised olive oil, and the nurse's hands are thoroughly disinfected before she takes anything out of one of the bags. When a bed is vacated the mattress is disinfected and the ironwork singed with alcohol. Since introducing these measures the mortality in his wards dropped from 41·8 per cent. in 1901 to 26·7 in 1903, and has been declining since. The skin of an infant, he declares, is so sensitive that it should be treated like an open wound.

T. R. Whipham.

Transient presence of casts in urine of healthy infants (*'Journ. Amer. Med. Assoc.,' January* 8, 1910).—**Goldsmith** out of curiosity examined the urine of a perfectly healthy male child, aged 11½ months, who had been properly fed and weaned after nine months. He was surprised to find in it a large number of hyaline and pale granular casts, "an appearance suggesting the showers of casts seen in adults." There was neither albumin, blood, nor any other constituent to suggest renal disease. The day before the child had possibly not been quite so lively as usual, but there was nothing indicative of ill-health, and on the day in question was as well as possible. Daily examination of the urine for the next two weeks and occasional examination subsequently, however, failed to reveal anything abnormal.

T. R. Whipham.

Congenital cystic elephantiasis (*'Australas. Med. Gaz.,' October*, 1909).—**Giblin** describes a fœtus in which the right arm, thorax, left upper arm and neck were so distorted by serous pouches as to be almost distorted beyond recognition. The right hand was eleven and a half inches in circumference, the same size as the head, and could only be recognised as such by being divided by sulci into five digitations. The thorax was sixteen inches in circumference and the mammary region hung in four pouches. The skin of the affected parts was so distended as to be almost transparent, and the epidermis easily peeled off, allowing serum to flow.

T. R. Whipham.

So-called acute epidemic anterior poliomyelitis (*'Semaine Med.,' November* 24, 1909).—**Lhermitte** discusses the reports of various epidemics of acute anterior poliomyelitis, and remarks that they do not all conform to a single type of disease. The reports include a number of inflammatory affections of the nervous system and meninges, such as simple or hæmorrhagic polio-encephalitis, diffuse encephalitis and myelitis, meningomyelitis, meningo-radiculitis, and polyneuritis. He considers that a further study of the lesions of the cerebro-spinal axis following acute meningitis will explain the close connection between the epidemics of acute spinal paralysis in children and adults and the epidemics of cerebro-spinal meningitis. A paralysis of meningeal origin can be differentiated from that of anterior poliomyelitis by the meningeal symptoms, viz. lymphocytosis or presence of polymorpho-nuclear cells in the cerebro-spinal fluid, severe pain in the limbs, the slower recovery from the paralysis, and the absence of atrophy in the muscles involved.

T. R. Whipham.

Meningo-encephalitis with complete idiocy and arrest of physical development (*'L'Echo Med. du Nord,' April*, 1910).—**Damage.**—The patient was a girl, aged 27 years, who had lived in bed for eleven years, only rousing for food or to knock her head against the wall. On attempting to move her she hits herself and others. Her aspect was that of a child of fourteen or

fifteen years. Hydrocephalic; almost completely blind; some scoliosis. She stood or walked with great difficulty. Height 1·42 metres. Limbs, hands, and feet well formed, but like those of a child of fourteen. Ears lobed. Canines and incisors have not appeared; arch of palate normal. Pupils equal, react to light. Menstrual function absent. Speech wanting. General sensation much blunted. Towards the end of her life attacks of suffocation occurred, in one of which she died. At the necropsy the intra-muscular septum was incomplete. The genital organs those of a child of ten years. Membranes of brain adherent, with great excess of subarachnoid fluid. The brain weighed 1025 grm. Lateral ventricles enlarged. Pia mater thickened universally and adherent to the dura over the parietal and temporal lobes. The convolutions were normal in type, but the cortical substance was reduced in thickness with very numerous round cells between the nervous elements. The nerve-cells are reduced in numbers; the large pyramidal cells are narrowed, lengthened, and sometimes folded, with little chromatic substance; nucleus deeply stained. There is no perivascular infiltration. Stained by Weijert-Pal method the cortical plexus is less thick than normal, and the tangential fibres show many small swellings. Similar changes were found in the right caudate nucleus, cerebellum, and cord. No family history was obtainable, but the author thinks the cause might be hereditary syphilis or parental alcoholism.

J. Porter Parkinson.

On the difficulty of diagnosis in the child between minor epilepsy and hysterical seizures (*'Gaz. hebd. des Sci. Med.,' April*, 1910).—**Cruchet** gives two examples of this difficulty. The first was in a boy, aged 8 years, who had an occasional tremor of the eyelids, the eyes turning upwards, lasting three to five seconds; at the beginning these crises occurred twice daily, but increased to forty or fifty a day. There were no other phenomena with the attack, and the boy appeared physically healthy and mentally sound, but there was a large scar in the upper part of the occipital region due to a fall. The boy was quite conscious of the attacks. Cruchet diagnosed hysterical convulsive tic. No treatment seemed of any avail. The second case was a girl, aged 9 years, who for four or five months, two or three times weekly, had an attack in which she stopped what she was doing, turned the eyes up with a fixed expression, and raised up the arms. In a few seconds the attack was over and she resumed her occupation. At first she denied knowledge of the seizures, but when pressed she admitted consciousness of her actions. This was doubtless an hysterical attack. The difficulty of diagnosis is increased by the physician rarely seeing an attack.

J. Porter Parkinson.

Some reflections on icterus neonatorum (*'Journ. de Med. de Bordeaux,' March*, 1910).—**Cruchet** considers the division of Frank into true and false jaundice is a good division, the false jaundice being the reddish tint over the whole skin, beginning on or before the third day, and gradually becoming yellow, but without any disturbance of the general health. The conjunctivæ are not coloured and there is no bile in the urine; the fæces are not abnormal. The true jaundice begins by digestive disturbance, refusal to take the breast, and later, jaundice, commencing in the conjunctivæ and extending over the skin. The urine is bile-coloured and the fæces pale. In the false jaundice Lernet has shown the presence of hæmolysis, but in true jaundice this is absent.

J. Porter Parkinson.

A case of congenital myxœdema with post-mortem (*'La Semana Med.,' September* 13, 1909).—**Arquellada** describes this typical case of cretinism in a girl, who improved under treatment with thyroid gland and died of an intercurrent intestinal disease. The thyroid gland weighed at the post-mortem 8 grm., and consisted of adipose and connective tissue.

M. D. Eder.

Syphilitic sciatica in a girl, aged 8 years (*'La Semana Med.,' August* 5, 1909).—**Cueto** saw in consultation a child who had been suffering for eight months from severe pain in the right gluteal region and leg, pain which had only been relieved by injections of morphia, and which lasted four to five days and then disappeared; the pain had appeared and always disappeared during the night. For the last six months she had been suffering frequently from headaches. The illness had been variously regarded as of either malarial or rheumatic origin. The whole of the right limb was painful, and tender spots existed at the gluteal, trochanteric, and popliteal regions along the course of the sciatic nerve; the examination was otherwise negative. By a process of exclusion syphilis was suspected, although congenital syphilis could be excluded. The mouth was opened for an examination of the teeth; a cicatrix was found on the buccal side of the right lip meeting the skin. The appearance of the cicatrix was similar to that of indurated chancres of the mucous membranes. It was then ascertained that a year previously she had an ulcer which had healed with Van Swieten's solution (liq. hydrarg. perchlor.). On treatment with injections of iodide of mercury the sciatica was at once relieved.

M. D. Eder.

A case of spastic spinal paraplegia (Strümpell's disease) (*'La Semana Med.,' October* 7, 1909).—**Jakob** demonstrated before the Argentine Medical Society the case of a boy, aged 11 years. At five years he walked with difficulty; he could not get upstairs. At seven there was spastic paralysis, the foot in a position of equinus; there was no muscular atrophy. The reflexes increased, patellar and heel; Babinsky present. The sensory reflexes normal. The child was an idiot (in Strümpell's case there was no intellectual change). A year later the child could not move; he died of broncho-pneumonia. Post-mortem: Surface of brain and meninges normal. The medulla small, pyramids small, bulb flattened. Corpus callosum and commissures were small. Degeneration of both pyramidal fasciculi. Goll's column very small. Degeneration of the cerebellar column in the cervical and superior regions. Microscopic examination showed atrophy of the giant cells of the grey matter, and degeneration of the white fibres. He pointed out that whereas in Little's disease the child is born with the affection, in Strümpell's the disease comes on long after birth. There were two brothers of the child suffering with the same disease. [No mention was made of healthy members of the family, if any.]

M. D. Eder.

Tumours of the pineal gland in children (*Académie de Médicine, sitting of March* 15, 1910).—**MM. Raymond** and **Claude.**—The patient was a boy, aged 10 years, who had had for three years symptoms of tumor cerebri, together with adiposity, abnormal increase in size and weight, genital hirsuties, and atrophy of the testicles. The hydrocephalic condition increased rapidly, accompanied by persistent sleepiness, apathy, and so forth. The post-mortem revealed a glioma of the pineal gland. The condition above described may, in some ways, be compared with the symptoms which

develop as a result of tumours of the pituitary body. In a short paper on "Adipositas Cerebralis" read by me before the Philadelphia meeting of the American Dermatological Association in 1909 (*'Journ. of Cut. Dis.,' vol.* XXVII, 1909, *p.* 554), I pointed out that as far as the skin was concerned sections showed, in addition to what might be well termed "adipositas," a hypertrophic condition of the derma itself existed, the collagen and elastic tissue being very coarse and hypertrophied. At the time I ventured to point out that the term "dermo-adipositas cerebralis" would, perhaps, fit such cases better. The patient was not a child, but a woman, aged 29 years, who became fat, flabby, and apathetic. Comparing her case with that of the child referred to by MM. Raymond and Claude, it may be noted that the woman became amenorrhœic. The premature pubic hairiness of the child shows in the case of the pineal gland tumour that not only was the subcutaneous fat increased, but that a stimulus was also given to the pilous apparatus. It is very likely that the derm was hypertrophied in the child as in the woman, whose skin I examined. On the other hand, in connection with the hypophysis, there is the case of a man on record (Schloffer, "Erfolgreiche Operation eines Hypophysentumors auf nasalem Wege," *'Wien. klin. Wochensch.,'* 1907) in whom the hair of the axillæ, beard, etc., stopped falling out and began to grow again after the pituitary body tumour had been partially removed by operation.

GEORGE PERNET.

Transmission of acute anterior poliomyelitis to monkeys (*'Amer. Journ. of Obstetrics and Diseases of Women and Children,' March,* 1910).—**Simon Flexner** and **P. A. Lewis** have shown that the virus of epidemic poliomyelitis, obtained in an emulsion of the spinal cord of fatal human cases, is readily transmissible from man to monkey, and from monkey to monkey when injected into the brain, the peritoneal cavity, the sciatic nerve, the subcutaneous tissue, or into the circulation direct. The successful transmission of this virus is followed by effects which evidence the usual symptoms of infantile paralysis in human beings. The same observers have further shown that probably the infecting agent of epidemic poliomyelitis belongs to the class of the minute and filterable viruses which have not yet been demonstrated under the microscope. To determine whether an attack of epidemic poliomyelitis followed by recovery will afford immunity to reinfection, the writers have reinoculated several recovered monkeys, and have noted in some instances failure of the virus to act, though causing paralysis in the control monkeys. (References: 'Journ. Amer. Med. Assoc.,' November 13, December 4, December 18, 1909; January 1, 1910.)

J. HOWELL EVANS.

Therapeutics.

Serum treatment of hæmophilia (*'Mitteil. a. d. Grenzgeb. der Med. u. Chir.,' vol.* XX, *No.* 5).—**Trembur** illustrates the value of sero-therapy in hæmophilia by the case of a girl, aged 13 years, who was known to be a bleeder, but was otherwise healthy. There was no history of such a condition occurring in other members of the family. The child's blood showed a considerable diminution in the number of red corpuscles and half the normal amount of hæmoglobin. After hæmorrhage from the mouth, throat, gums, and left ear, and also from the nose, which necessitated plugging, 5 c.c. of sheep's serum was injected into the left upper arm, with the result that in four hours the epistaxis was arrested; it recurred two days later, but was

checked by plugging the nostrils with gauze soaked in sheep's serum. The bleeding from the gums was also arrested by local serum applications. A severe hæmorrhage from both ears then occurred, and at once 10 c.c. of sheep's serum was injected into each thigh, the injections being repeated two weeks later as there was still a tendency to hæmorrhage. Further injections were subsequently given—some into the abdomen—the total amounting to 106 c.c. in a little under ten weeks. The patient left hospital greatly improved in health. A marked leucocytosis followed each injection, and this, by increasing the number of ferment-bearing cells, may be the explanation of the benefit following this form of treatment in hæmophilia. Jochmann has called attention to the increased coagulation brought about by the proteolytic leucocyte ferment. No precipitins for sheep or rabbit serum could be discovered in the child's blood during or after the injection.

T. R. Whipham.

Treatment by sea-water injections (*'Journ. Amer. Med. Assoc.,' January* 1, 1910).—**Le Boutillier** advocates the subcutaneous injection of sterilised and diluted sea-water in cases of inanition, malnutrition, and chronic indigestion. A dilution of eighty-three parts of sea-water obtained well out at sea, and from a sufficient depth to insure against surface contamination, is made with 190 parts of pure spring water, passed through a Berkefeld filter and put up in sterile bottles. This is isotonic with blood-plasma, and in it leucocytes will live when kept at blood temperature. The dose varies from 10 to 60 c.c. according to the age of the patient and the urgency of the case, and injections are given from three times a week to every day for a short period, the amount being increased until the desired effect is produced. The duration of treatment varies from two or three weeks to four or six months. The injections are unaccompanied by pain or other disturbance, though there may be a slight rise of temperature following the first or second injection and some discomfort at the site of the injection owing to the distension of the tissues by the fluid. Marked improvement in nutrition ensues, the stools are rendered more normal and the appetite increases, while colic is soon allayed. The skin becomes more moist and healthy sleep is induced.

T. R. Whipham.

Coagulation in hæmophilia (*'Münch. med. Wochens.,' January* 4, 1910).—**Kottmann** and **Lidsky,** after investigations with the coaguloviscosimeter, support the view that in hæmophilia there is a lack of thrombokinase, and that hæmorrhage can be arrested by supplying this from without. Bleeding should be checked at once by tamponing with fresh animal blood or serum. The thrombokinase can be obtained at any time by simply soaking in water chopped and pounded liver obtained fresh from a rabbit or any other animal. After filtration through an ordinary cloth the turbid suspension thus obtained affords a rational styptic, which does not soon lose its efficacy like ready-made fibrin-ferment, but in contact with the blood constantly liberates the ferment afresh. The extract must be made fresh each time.

T. R. Whipham.

Morphine treatment of diphtheritic croup (*'La Pediatria,' February,* 1910, *No.* 2, *p.* 110).—**M. Ponticaccia** gives short notes of twenty-four cases which, in addition to anti-diphtheritic serum, were given injections of a 1 per cent. solution of hydrochlorate of morphine in doses of $\frac{1}{3}$ c.c. for the first year of age, $\frac{1}{2}$ c.c. for the second, $\frac{2}{3}$ c.c. for the third, and 1 c.c. for ages

beyond this. Six were operated on—five intubations and one tracheotomy. In most cases 2 mgrm. of morphine was given once only, in a few 3 mgrm. once. It was never repeated in less than two hours' time, and then only if the first dose had produced no effect and if there was no somnolence. The amount was a minimum of 2 mgrm. and a maximum of 13 mgrm. in divided doses. These amounts were always tolerated well and had an immediate efficacy in the laryngeal spasm, and there was never to be seen any laryngeal condition of considerable gravity which did not improve during the sleep which followed the morphine injection. It seemed that during this sleep, and also during the waking intervals between one sleep and another, if the action of the morphine was maintained, the intensity of the laryngeal stenosis did not increase as it generally does in the majority of cases. It also seemed that if the morphine was injected simultaneously with the serum in a case of croup in which the breathing, although bad, is tolerated and does not call for immediate intervention, there is great probability that it will remain tolerated until the laryngeal trouble is ameliorated by the action of the serum. Many of the cases were exceedingly severe and in which operation seemed unavoidable; when they escaped it seemed that the morphine was helpful in prolonging the tolerance of the stenotic breathing, in giving time for the serum to act, and thus render operation less frequent. Of the twenty-four cases three died, but long after the laryngeal condition was at an end, and of complications such as acute nephritis, pulmonary atelectasis, and glandular tubercle in one case; atelectasis, broncho-pneumonia, and acute nephritis in another; broncho-pneumonia and acute nephritis in a third.

VINCENT DICKINSON.

Otology, Laryngology, and Rhinology.

A little-recognised consequence of adenoid growths (*'The Practitioner,' January,* 1910).—**Smith** writes drawing attention to the liberal secretion of thick and acrid mucus so common in adenoid cases, and insists upon its importance as a cause of troublesome cough and gastric derangement. The paper is eminently practical, and, although immediate removal of the adenoids is advised, the author points out that further treatment is usually necessary to finally overcome the troubles which this acrid secretion has induced.

MACLEOD YEARSLEY.

The results of the clinical throat examination of 212 school children (*'Boston Med. and Surg. Journ.,' February* 17, 1910).—**W. P. Coues,** finding 153 children of of 212 suffering with large tonsils, discusses causation, and believes that there are three factors predisposing: (1) Poor home surroundings—lack of fresh air and sunlight; (2) improper and insufficient food, and neglect of teeth; (3) unhygienic school conditions. One hundred and three showed markedly carious teeth.

MACLEOD YEARSLEY.

Surgery.

Primary tuberculosis of the patella (*'Journ. des Pract.,' November* 28, 1909).—**Kirmisson** states that this rare condition occurs in children of from five to eight years of age. There are two forms of the disease: (1) diffuse and infiltrated, (2) limited and cavernous. In the latter there is a cavity filled with tuberculous material, which may open in front or posteriorly; if

anteriorly a tuberculous ulcer is formed, if behind, a tuberculous arthritis. Some surgeons remove the patella, others only the diseased area. The tendinous attachments and cartilaginous parts may be left undisturbed, and regeneration of the bone has been recorded after removal. In bad cases the power of extension is apt to be lost. The patella may ankylose with the femur, so that the movement of the joint is greatly impaired.

T. R. Whipham.

Gastric ulcer in a boy, aged 8 years (*'Boston Med. and Surg. Journ.,' December* 23, 1909).—**Lund** records a case of perforated gastric ulcer, treated by operation and ending in recovery, in a boy, aged 8 years. Ulcer of the stomach is a rare condition in children under fourteen years of age, only sixty-four cases having been recorded, and of these only two were operated upon. The patient had had occasional spells of vomiting since infancy, but no hæmatemesis until a year previously, when there was considerable abdominal pain and the vomit was streaked with blood. Some months later he had another attack, with two ounces of hæmatemesis and melæna for a couple of days. On admission to hospital the temperature was 102° F.; there was slight hæmatemesis and the epigastrium was tender. Laparotomy was performed and a large, indurated ulcer was found on the lesser curvature near the pylorus, which was firmly adherent to the liver. A posterior gastro-enterostomy was done, with an excellent result.

T. R. Whipham.

Atresia of the duodenum (*'Journ. Amer. Med. Assoc.,' July* 3, 1909).—**Freeman** saw a case of complete stenosis of the duodenum at the junction of its upper and middle thirds. On the second day passed no urine, vomited and became jaundiced. On the fifth day the vomiting was frequent, but on the following day, when the patient was first seen, there was no peristalsis. The vomiting became worse, and on the tenth day the child died. Only sixty-two similar cases have been reported.

T. R. Whipham.

Pressure from the thymus (*'Deut. Zeitsch. f. Chir.,' May*, 1909).—**Denecke** saw a boy, aged 5 years, in whom an enlarged thymus caused pressure on the main venous trunks. The supra-clavicular fossa on either side bulged as the child cried, and the veins in the neck swelled to the size of one's finger. There was very little stridor during inspiration. The patient was cured by resection of part of the thymus on either side.

T. R. Whipham.

Treatment of convulsions after orthopædic operations (*'Zentralb. f. Chir.,' January* 1, 1910).—**Schanz** has observed ten cases in which signs of fat embolism occurred after operation on the bones. The cerebral vessels apparently became occluded by fat from the marrow, and convulsions followed. The first case was fatal, and in the second there was hemiplegia of several weeks' duration. All the others recovered, a result which the author attributes to his routine method of subcutaneous saline infusion. The salt solution is injected at several points in order to dilate and flush out the capillaries involved as promptly and as effectually as possible. The earlier and the more copious the infusion the better is the effect—up to a litre being injected at the first sign of embolism. In very severe cases the writer advocates infusion directly into a vein.

T. R. Whipham.

Long-standing empyema (*'Arch. of Pediat.,'* xxvii, 1910, *p.* 26).—**A. Hand, jun.**, records a case in a girl, aged 3 years and 5 months, in whom the empyema had been present for probably twenty-two months. On admission to hospital she was extremely emaciated and weighed only 8 lb. 14 oz. The abdomen was greatly distended in a manner suggesting a tumour or hypertrophic dilatation of the colon. Death occurred one month after rib resection, when about one ounce of green pus containing streptococci was evacuated. The autopsy showed nothing beyond a compressed and fibroid left lung with greatly thickened pleura. Hand adds a note on race as a predisposing factor in the occurrence of empyema. He found that whereas among 1109 cases of pneumonia in white children empyema occurred in 99 cases, or 9 per cent., in 245 cases of pneumonia in coloured children it occurred in only 3 cases, or 1·2 per cent.

J. D. Rolleston.

Chronic appendicitis (*'Progrès Méd.,'* 1910, *p.* 66).—**A. Schwartz.**—A boy, aged 12 years, had suffered from loss of appetite for several years. When three years old he had had four or five attacks of indigestion, characterised by vomiting. On examination of the abdomen well-marked tenderness was found in both iliac fossæ, especially in the right. The diagnosis of chronic appendicitis being made, Schwartz removed the appendix, which was very long and irregularly thickened. A week after the operation the appetite returned and had been hearty ever since (*cf.* British Journal of Children's Diseases, 1909, p. 131).

J. D. Rolleston.

Cerebral hæmorrhage at birth, with operation (*'Arch. of Pediat.,'* xxvi, 1909, *p.* 846).—**F. S. Meara and A. S. Taylor.**—A primipara, aged 35 years, after a prolonged instrumental labour gave birth to a child with left facial palsy. The next day the facial palsy was less, but the left arm and leg were rigid and in the evening showed convulsive movements. On the third day the child, who had hitherto had a good colour and pulse, was cyanosed and looked ill. An operation was performed by Taylor, who turned down an osteoplastic flap which comprised most of the right parietal bone, and then a smaller dural flap, exposing the brain covered by blood-clot. Some active bleeding was present. All the clot that could be reached was removed, the brain surface was irrigated, and the fresh hæmorrhage controlled. No improvement occurred, and death took place half an hour after the operation. The autopsy showed that an extension of the clot had passed along the inner end of the left fissure of Sylvius to the base of the brain and back into the posterior fossa, where it covered the pons medulla and cerebellum.

J. D. Rolleston.

Large polypoid tumour of the urethra in a female, aged 3 years (*'Amer. Journ. of Obstetrics and Diseases of Women and Children*).—**Petit de la Villeon** records in the 'Gaz. Hebd. des Sci. Med.,' October 10, 1909, the occurrence of a large polypus connected with the urethra in a female child, aged 3 years. The child suffered from a profuse urethral discharge and itching prior to the external appearance of the tumour, which, owing to its subsequent rapid enlargement, was clinically considered to be of a sarcomatous nature. The tumour, moist, red and turgescent, was removed and found to be a simple polypus which had been growing from the wall of the urethra.

J. Howell Evans.